CURRENT NEWS

July 25, 1914

Second International Water-Power Congress

Delegates Will Discuss Hydroelectric Problems in Convention to Be Held in September at Lyons, France

The second International Water-Power Congress will be held during Sept. 7 to 10 at Lyons, France, under the auspices of the ministers of the offices of public roads and agriculture. After the convention trips will be conducted to important hydroelectric developments in the Alps. There will be three sections, one on legislation, another on finance and a third on technical questions. The first section has seven questions to deal with—(1) summary of water power legislation in Austria, Canada, England, Germany, Italy, Norway, Russia, Spain, Sweden, Switzerland and the United States, (2) water rights on unnavigable streams where no logging is prevailing, (3) laws for water-power plants using water on public domain, (4) laws for water-power plants using water in unnavigable streams, (5) international rules for the utilization of rivers belonging to two countries, (6) export and import of electrical energy, and (7) laws for regulation of rivers and utilization of water powers in government forest districts. The second section will discuss the following topics: (1) Economical results connected with the management of the River Rhone, (2) reservoirs for river regulation, (3) levees and their influence on industries using the energy of water, (4) the influence of the government on the economical development of water power, (5) capitalization of water powers developed by private interests and those developed by governments or municipalities, (6) local profits due to utilization of power, (7) undertakings for regulating river discharges, (8) water power and the metallurgical industries, (9) water power and the electrification of railroads, and (10) water power and agriculture. The section for technical questions will deal with—(1) hydroelectric plants bypassing rivers, their dams and other structures, (2) protection of rivers, (3) measurement of discharges, (4) surge tanks, (5) hydroelectric laboratories, (6) metal pressure conduits, (7) pressure conduits of reinforced concrete, (8) turbines, (9) backwater from dams, and (10) transmission of energy.

President Wilson Orders New Haven Dissolution Suit

Failure of the New Haven system to adhere to its agreement with the Federal Government for a friendly dissolution has resulted in a letter from President Wilson to Attorney-General McReynolds ordering a dissolution suit and directing that "the criminal aspects of the case be laid before a grand jury." The course pursued by the railroad system is due to the recent action of the Massachusetts Legislature in making its consent to the sale of the New Haven's Boston & Maine holdings conditional upon the State's right to buy the stock at its fair value. The New Haven contends that this condition gives the State such control as to render the stock unmarketable.

Convict Camp on New York State Highway

Twenty convicts serving sentences in Sing Sing prison, at Ossining, N. Y., have been stationed at Palenville, near Catskill, N. Y., on the west side of the Hudson River, forming the first convict labor camp to work on the State's highways.

Alfred D. Flinn Deputy Chief of Board of Water Supply

Alfred D. Flinn, department engineer of the Board of Water Supply of New York City, and formerly managing editor of the Engineering Record, has been appointed deputy chief engineer to succeed Col. Merritt H. Smith, whose appointment as chief engineer of the New York Department of Water Supply, Gas and Electricity was noted in this journal July 4. Mr. Flinn was born in New Berlin, Pa., in 1869. Graduating from Worcester Polytechnic Institute in 1893, after a short period spent

ALFRED D. FLINN

in surveying for rapid-transit routes and parks in Boston, he entered the distribution department of the Boston waterworks. In 1895 this employment was terminated and he became connected with the metropolitan waterworks in Boston, first as transitman and assistant engineer on surveys for pipe lines, distributing reservoirs and pumping stations, later on designs and construction, and finally as principal office assistant in charge of designs relating to the Wachusett dam, reservoir and aqueduct and the Weston aqueduct and reservoir. In 1900, 1901 and 1902 the new deputy lectured at Harvard University on waterworks and sewerage. In 1902 he left Boston to become managing editor of the Engineering Record. Prior to entering the service of the Board of Water Supply in 1905, Mr. Flinn served one year as general inspector in connection with the completion of the new Croton dam and Jerome Park reservoir, the designs of the Cross River reservoir, preliminary studies for the Paterson reservoir and the Croton Falls reservoir and dam. In addition to organization and routine matters his duties in connection with the construction of the Catskill water-supply system have been principally in the preparation of contracts and specifications, direction of the headquarters department in New York, responsibility for the design and construction of buildings along the aqueduct and at the reservoirs, and surveys for the city aqueducts, including the tunnel from Hill View reservoir to Brooklyn and the Silver Lake reservoir on Staten Island.

His appointment becomes effective August 1.

Feasibility of Pumping Croton Water in New York City

James H. Fuertes Recommends Conversion of Portion of System from Gravity to Pressure Supply

By converting a portion of the Croton waterworks of New York City from a gravity to a pumped supply a saving of $1,200,000 a year to property owners in lower Manhattan can be effected. This is the conclusion reached by James H. Fuertes, consulting engineer, who was retained by the Merchants' Association last winter to make a study of water pressure in its relation to automatic sprinklers for fire prevention. His report, based upon studies extending over six months, was submitted on July 6 and was made public this week. Some of Mr. Fuertes' conclusions are given below:

The Croton supply cannot be abandoned, or supplanted by the new Catskill water; both supplies are needed. The Catskill supply cannot be used for the low pressure section of Manhattan, as it would thus displace so large a proportion of the Croton as to practically cause its abandonment. The Catskill supply can be advantageously used at reduced pressure over the greater part of the intermediate pressure service area in Manhattan.

The consumers in the districts that will be supplied with Catskill water will receive plenty of water at good pressure, but the consumers of the Croton water, who have paid for the Croton supply and will pay the greater part of the cost of the Catskill supply also, will still have to put up with poor pressures and unsatisfactory service. This is unjust discrimination.

Private Pumps Cost $3,000,000

At present the cost to private consumers of the pumps and tanks required, and actually in use, for pumping the Croton water up high enough to give satisfactory service approximates $3,000,000 in the southern low service area of Manhattan. It is entirely feasible to construct a municipal pumping plant that will pump the supply for the southern low-service area high enough to give satisfactory service; that is, to put the water high enough to supply automatic sprinklers anywhere in the district, at a sufficient pressure at the tops of ten-story buildings, for a total cost, including connections with the street mains, of about $3,000,000, or about the amount now invested in private pumping plants in a little over half the area. The best location for a municipal plant for pumping the Croton supply for the southern low-service district in Manhattan is at the 135th Street gatehouse. At this gatehouse the Croton aqueducts terminate.

Pumping Costs

The present cost of privately pumping the water in 43 per cent of the southern low-service district approximates $600,000 per year (exclusive of buildings eleven stories in height and over), which is paid for by consumers who also pay their proportionate cost of the general supply. The cost of pumping all the water in the whole southern low-service district at a municipal plant would be about $400,000 per year, including all costs for operation, interest and sinking fund payments (excluding cost of pumping the water in buildings eleven stories in height, and higher, which would have to be pumped privately in any event).

About 16 per cent of the southern low-service district is the available area on which complete automatic sprinkler systems could be installed if found economical. The saving that would be effective in insurance outlays in this

16 per cent of the total area of the southern low-service district, due to the greater and cheaper installation of automatic sprinkler systems, and the saving in insurance premiums on the present area equipped with one source supply equipments, made possible by the provision of a municipal pumping plant, might reach a total of about $575,000 per annum.

It is feasible to change the Croton from a gravity to a pumped supply for a part of the present low-service district in Manhattan. The change will directly benefit all the consumers in the district in the way of better service, and can save to the consumers nearly $1,200,000 annually by the avoidance of private pumping and by the smaller insurance outlays required by virtue of the better pressures available.

Plan for Joint Highway Convention in 1915 at San Francisco

A special meeting of the board of directors of the American Road Builders' Association was held at the Hotel Astor, New York, July 17. A unanimous vote was taken favoring holding a joint convention with the American Highway Association in 1915, either in San Francisco or in Oakland, during the Panama-Pacific Exposition, the exact date and place to be determined later. If this plan prevails, the management of the joint meeting will be in the hands of a committee of five, made up of two members from each association, the fifth member to be selected by these four.

Ohio to Award $2,500,000 Worth of Roads at One Letting

Eighty-nine roads and one bridge located in fifty-three counties of the State, construction to cost in the neighborhood of $2,500,000, will be offered Aug. 4 at Columbus, Ohio, by Highway Commissioner James R. Marker, constituting the largest single letting ever held by the department. Among the contracts, which call for construction of 194 mi. of roads, is the paving of the National Pike with brick across three-fourths of the width of Guernsey County at a cost of about $338,000. This will, with the exception of about 40 mi., finish paving the entire length of the National Pike from the Ohio River to Columbus.

The next largest single contract in the August letting will undoubtedly be construction of the Newark-New Lexington road in Perry County. This will cost about $130,000.

Women's Auxiliary Established by American Highway Association

At a recent meeting of the executive committee of the American Highway Association a resolution was passed forming a women's auxiliary department designed to strengthen the movement of improving methods of building and administering road systems. Mrs. Robert Baker was appointed executive of the new department by Logan Waller Page, director of the U. S. Office of Public Roads and president of the association.

Those present at the meeting—Leonard Tufts, chairman; Mr. Page, A. G. Batchelder, chairman of the executive board of the American Automobile Association; Fairfax Harrison, president of the Southern Railway Company, and Richard H. Edmonds, editor of the "Manufacturer's Record"—included representatives of the executive committee of the American Road Congress, which will be held at Atlanta, Ga., Nov. 9-14. Additional space has been secured for the convention by inclosing one of the streets adjacent to the auditorium, and the demands of exhibitors may necessitate roofing over still another street. It is believed that, for a great part of its length, the Washington-Atlanta Government-maintained highway will be available for automobile tourists attending the convention.

Large Coal Terminals for Charleston

Contracts have been awarded by the Holston Corporation for the building at Charleston, S. C., of coal terminals to cost more than $1,100,000. According to the terms of the agreement made by the Holston Corporation and the city, the piers, conforming to a specified standard, must be completed not later than July 1, 1916.

The contract for the dredging of the site of the piers, which will require the removal of approximately 1,300,000 cu. yd. of earth, was let to the Atlantic, Gulf & Pacific Dredging Company and work has been in progress by the company for several weeks. The contract for building the pier was recently awarded to the MacArthur Brothers Company, of New York.

The terminals will be equipped with numerous devices of the latest design. The plans call for a plant designed to eliminate breakage in the handling of coal. To do this belt conveyors will be used, and these will be so arranged that coal will move almost as smoothly as a stream of water from the railroad cars to the holds of vessels.

Broken Conduits Complicate Water Situation in Denver

The Denver City Water Company is reported to be trying to sell its holdings to the city and, incidentally, to induce the city not to build its own water supply system. The city is willing to purchase the system, if a price agreeable to both parties could be fixed. At a referendum election last February the taxpayers decided, by a majority of two to one, to buy or build a municipal water system, and voted a bond issue of $8,000,000 for the purpose. It is estimated that if the city bought the old plant for $8,000,000 or less, an additional $3,000,000 would have to be spent in putting the plant in fair shape, while estimates for a new plant place its cost at $9,000,000.

Recently the situation was complicated by the failure of two conduits which left portions of the city without water for several days, it is reported, and gave ground for claims that the pipes failed because worn out, thus exposing the weakness of the system offered to the city.

Large Ore Pier for Lehigh Valley on New York Bay

A contract is reported to have been let by the Lehigh Valley Railroad for preliminary work in connection with a large ore pier to be built at Constable Hook, N. J., in New York harbor. It is stated that the pier will be 1150 ft. long, with a basin 200 ft. wide; and that a channel 35 ft. deep at low tide will be dredged to reach it; also that the pier will be equipped with the most modern cranes to permit economical handling of the ore.

First Awards under New York Workmen's Compensation Law

Two awards of pensions for life were made at the first public meeting of the New York State Workmen's Compensation Commission in New York City July 20. The widow of Curtis W. Althen, a carpenter who fell to his death from the new Equitable Building in that city, was granted $30 a month, and his five-year-old daughter will be allowed $10 a month until she is eighteen years old.

In the second case the commission awarded to Mrs. Lillian Fargo $12.50 a month and to her 13-year-old son another $12.50 a month until he attains the age of 21. Mrs. Fargo's husband was employed at Sternsburg, N. Y., to repair the roof of a barn. He fell and was killed.

Althen had been insured by the contractor in the Travelers' Insurance Company and Fargo in the Standard Accident Insurance Company of Detroit. Neither company made opposition to the awards.

Scope of Proposed Report on Subways in Detroit

Subways for Detroit's downtown district are being seriously considered. On June 2 tentative plans proposed by the Street Railway Commission for a system in Woodward, Michigan and Gratiot were passed by the City Council. Barclay Parsons and Klapp, of New York, have since been asked for a proposition on a report. For $32,000 they propose to analyze the probable future growth of the city by sections, existing traffic, subway system and other means of improving traffic and subsurface conditions. General plans with costs will then be outlined and a discussion will be presented of the value of the proposed subway from the earning and service standpoint.

Activities of Mount Lassen in California Declared to Be Volcanic

Nearly a score of violent eruptions of the steam explosive type have occurred since May 30 in Mount Lassen, an "extinct" volcano in the Sierra Nevada Mountains about 50 mi. east of Redding, Cal. There is no doubt that the activity is really volcanic, instead of partaking of the nature of a geyser, according to Prof. R. S. Holway, of the University of California, department of geology, who recently visited the mountain.

Some of the eruptions have been most spectacular, when huge columns of white vapor and fine black volcanic ash rose over the crater to great heights. Steam and sulphur fumes are constantly escaping, Prof. Holway reports, and the sides of the crater are continually caving in. No fresh lava has been seen, nor has there been any heat manifest other than in the escaping steam, but stones large enough to endanger life were thrown as far as half a mile from the crater, and volcanic ash is settling, according to the direction of the wind, as much as 18 or 20 mi. from the mountain.

Federal Plan to Conserve Timber

Because the 3,000 billion feet, board measure, of timber now standing in the United States is being reduced at the rate of 60 billion feet annually, involving a great waste at camp and mill, a joint remedial inquiry has been instituted by the Federal Departments of Agriculture and Commerce. The studies will seek to establish the essential facts relating to supply, exploitation and marketing of timber at home and abroad, and to analyze the underlying causes of present unsatisfactory conditions. They will be conducted directly by the Forest Service in the Department of Agriculture and the Bureau of Foreign and Domestic Commerce, with the co-operation of the Bureau of Corporations and the Bureau of Standards of the Department of Commerce, within their special fields.

Among the related industrial and business questions which will be considered are the effects upon lumber production of speculation in standing timber and the carrying charges on private stumpage; the extension of markets, including the development of the foreign market for lumber and other forest products and the marketing of material in new forms, and the competition of lumber produced in other countries and of other materials used for the same purposes.

Amend San Francisco Building Law

An ordinance has been passed by the supervisors of San Francisco amending the building law, the provisions of which permit the erection of one-story buildings with inclosing walls and roof of corrugated iron or galvanized sheet steel, supported on a frame of steel construction and not exceeding 15 ft. in height and 400 sq. ft. in area, in the rear of any residence or in the rear of any lot outside the fire limits, and to be used for private garage purposes only.

Los Angeles Urged to Improve Harbor

Delay in taking possession of and utilizing certain tideland locations at Los Angeles Harbor, the city's title to which has been established recently by the courts, is resulting in a heavy loss to the city, according to a report presented to the harbor commission on July 16 by Secretary C. H. Matson.

The city has undisputed title to approximately 450,000 sq. ft. of tideland in location No. 132, which is much more advantageously located with regard to commercial development, Mr. Matson states, than is the property which the city has improved at Wilmington and which returns 6 per cent annually on a valuation of $43,000 per acre.

Comparison with San Francisco is drawn in the report by stating that in that city the State owns a series of lots on the west side of the Embarcadero which are cut off from tidewater by the 200-ft. roadway, and yet these are rented by the State on the basis of a valuation of $4 per square foot which was put on them in 1907. Even if a valuation of only $1 per square foot were put on the tidelands in question at Los Angeles, Mr. Matson points out that at 6 per cent this property should be yielding an annual return of $27,000.

Tainter-Gate Operation at Coon Rapids During Log Run

Inadvertently in last week's Current News 100,000,000 ft. of logs were stated to have passed over instead of under the Tainter gates of the Coon Rapids dam. Unless the operators neglect to raise these gates there is never any reason for drift to pass over the gates. Arrangements are being perfected to get warning of floods from Twin Falls, 24 hr. away by the river. With the warning ample time is available, even in the coldest weather, to thaw out the gates with steam which is piped along the dam from a steam-heating boiler in the power house.

Reading Car Shops at St. Clair Completed

The $300,000 car shops of the Philadelphia & Reading Railway between Mill Creek and St. Clair, Pa., have been completed, and it is reported that the shops at Palo Alto will now be removed.

Denver-San Diego Railroad Incorporated

Articles of incorporation have been filed for the Southwestern Pacific Railroad, which proposes to build from Denver to San Diego, Cal. The estimated cost of the 2200 mi. to be built is given as $105,000,000. The main line will be 1021 mi. long. A branch will reach Salt Lake City. It has been announced that actual construction will begin at once.

Fuertes Medal Awarded to Weston E. Fuller

The Fuertes Medal for 1914, offered for the most meritorious paper by a graduate of the college of civil engineering upon some engineering subject tending to advance the scientific or practical interests of the profession of the civil engineer, was awarded by the faculty of the College of Civil Engineering of Cornell University to Weston E. Fuller, of the firm of Hazen & Whipple, consulting engineers, of New York, for his paper on "Flood Flows," published in the "Transactions" of the American Society of Civil Engineers. Although the paper was not presented for competition, the committee chosen to investigate and report upon the award considered it in connection with those formally submitted.

New York Sewer Plan Commission Submits Report

The New York Sewer Plan Commission, after conferring with the Metropolitan Sewerage Commission, is unable to modify in any essential feature its conclusions stated in the report of the Board of Estimate dated May 15, 1914 (see Current News section of July 18). The essence of that report and of a later one submitted June 29 may be condensed into the following conclusions:

A certain percentage of dissolved oxygen content should be required in any standard of cleanness for the harbor which might be adopted.

The construction of sedimentation basins at carefully selected points in the built-up sections of the city is recommended with no fear that they will prove impracticable or dangerous.

The Harlem and lower East River can be relieved of pollution in the best and cheapest manner by diverting part of the tributary sewage to larger available bodies of water within easy reach—namely, the Hudson River, upper East River and upper bay—and the judicious use of local fine screening and sedimentation plants so that it would not be necessary to divert any sewage from these localities to the ocean for a very long time to come.

The report is signed by Nelson P. Lewis, chairman; E. P. Goodrich, George W. Tillson, J. W. T. Bennett, Foster Crowell, Lewis Nixon and Charles E. Gregory.

Power Transmission from Sweden to Denmark

An agreement for the transmission of 15,000 hp from the river Lagan in Sweden to the Danish island Sjaelland has been sanctioned by the Swedish and Danish Governments. The contract, which is drawn between the South Swedish Power Company, which owns and operates the generating station, and the North Sjaelland Electric Works, provides for sufficient power to light the entire northern part of Sjaelland. The Strait of Oresund will be crossed by means of a submarine cable 4 miles long.

Decatur Required to Build a Sewage Disposal Plant

As one of the first moves in its campaign to check the pollution of water in rivers of the State, the Illinois Rivers and Lakes Commission has issued an order requiring the city of Decatur to construct a sewage disposal plant and have it in operation not later than January 1, 1917. At present Decatur turns its sewage into the Sangamon River, thus polluting the water supply of several cities and towns.

The plant necessary to take care of the sewage probably will cost about $500,000 and will be paid for through special assessments and bond issues. Langdon Pearce, sewage engineer for Decatur, will make the investigation of the conditions and needs.

Susquehanna a Navigable Stream

The Susquehanna has been declared to be a navigable stream above the Maryland border and jurisdiction over this river has passed from the State of Pennsylvania to the War Department. This practically means that the department may order the removal of artificial obstructions in the river if they interfere with navigation or are a menace to it. This will cover the Pennsylvania Water & Power Company's dam and power house at Holtwood, Pa., which was built by authority from the State of Pennsylvania. The company has spent more than $16,000,000 on its plant and it is not conceivable that the Government will do anything which would interfere with this large investment. It might, however, compel the company to provide a lock for the passage of vessels.

New York-San Francisco Steamship Service

A steamship passenger and freight service from the Atlantic to the Pacific Coast of the United States by way of the Panama Canal will be inaugurated with the opening of the Panama-Pacific International Exposition in San Francisco. The International Mercantile Marine Company, comprising the American, Atlantic Transport, Red Star, White Star, and White Star-Dominion lines, has announced that the first sailing will be May 1, 1915, from New York. The time of the trip will be fifteen days and sailings will be at intervals of three weeks. The boats will stop at either Los Angeles or San Diego.

The steamers selected for this new route are the "Finland" and "Kroonland," of the Red Star Line, both American-built vessels. The new line will be known as the Panama-Pacific.

Big Decline in Lake Traffic

Another heavy decrease in lake traffic is shown by the statistical report of commerce through the American and Canadian canals at Sault Ste. Marie, Mich., for June. The total freight movement of 8,588,081 tons is 3,525,532 tons below the total for June of last year. In practically every article of freight, except flour, eastbound, and hard coal, westbound, shipments have fallen short of the totals for June, 1913. Vessel passages for the month were 2,805, with a registered net tonnage of 6,665,134, as compared with 3418 vessels with 8,640,442 tonnage last year.

Cleveland Railroads Score in Fight for Submerged Lands

A suit by the State of Ohio for the ownership of land under Lake Erie at Cleveland has been dismissed by Judge Stevens of the Court of Common Pleas. The land in question comprised 30 acres just west of the harbor entrance being reclaimed by the Pennsylvania Lines West of Pittsburgh and the Lake Shore & Michigan Southern Railway for the construction of extensive water terminals. The State asked that the railroads be restrained from completing the fill and be compelled to remove the material already placed. In dismissing the suit the court stipulates that the property must be used exclusively for docks. The judge is quoted as saying informally after the decision that laws should be passed to prohibit further encroachment on the lakefront without explicit license from the State to do so. It is understood that the State will at once appeal from the decision to the Supreme Court.

Watchman Killed in Powder-Magazine Explosion at Panama

Nearly a quarter of a ton of dynamite stored in the Mindi magazine, near the Atlantic entrance to the Panama Canal, exploded July 5, and the watchman, a West Indian, was killed. A wall of the detonator house, 150 ft. distant, was blown out, allowing part of the roof to fall. The magazine, which held 435,000 lb. of dynamite and 15,000 lb. of powder, was 112 x 48 x 9 ft. in dimensions, placed in a hollow about 5 mi. from Colon and 2 mi. from Gatun. The walls were 12-in. hollow concrete blocks and the roof was reinforced concrete. Regular inspection has been made and daily readings of temperature have been taken.

The blast, according to the "Canal Record," tore a large hole in the earth where the magazine stood and deposited the material from it and from the adjoining side of the hill in a huge mound in front, 12 to 15 ft. in height. The bed of the Mindi River near by was filled to a height of from 10 to 12 ft., the barrier completely damming the stream and causing it to seek a new course.

The explosion is thought to have been due to spontaneous combustion.

Missouri Public Service Commission Issues Rule Book

A tentative draft of public-utility regulations was issued July 6 by the Missouri Public Service Commission. Gas, electricity and water corporations are served with the order and given until July 28 to file objections, on which date a hearing will be had at Jefferson City.

Special rules applying to waterworks require purity standards, stating that water which rarely shows the presence of B. coli in 1 cu. cm. may be considered reasonably safe, and that periodical bacteriological tests be made at least twice a year. Employment of chemists or bacteriologists in a consulting capacity and filtration of doubtful waters with bleach as an auxiliary are recommended. Recording pressure gages are required and station meters are recommended to ascertain amounts pumped. Each water-service meter must be tested to less than a 5 per cent error at one-tenth, one-half and normal flow before installation, and at least every twenty-four months.

Every city of more than 3000 population shall maintain at least one approved meter tester.

Commission May Exceed Statutory Limit in Rate-Making

Power to establish freight and passenger intrastate rates above the statutory limit is conferred upon the Missouri Public Service Commission by the Supreme Court of that State in a decision recently rendered. The Missouri Southern Railroad had claimed that it could not make money either in carrying passengers at the legal rate of 2 cents per mile or in transporting freight at the established rates. It had, therefore, asked permission to charge 3 cents per mile for passengers and make a corresponding increase in freight charges. The commission had denied the application on the ground that it had no authority to grant such increases, but the Supreme Court now directs the commission to proceed at once with an investigation to ascertain whether the increase in rates is justified.

St. Louis Members of American Society Reorganize

The St. Louis Association of Members of the American Society of Civil Engineers reorganized on June 8 by adopting a new constitution and becoming one of eleven associations recognized by the board of directors of the American Society. A special committee, consisting of S. Bent Russell, Robert L. Van Sant, and John W. Woermann, which drafted the new constitution, was instructed to prepare by-laws for the consideration of the association. The old officers will hold over until the next annual meeting.

New York Central Stockholders Vote for Merger

At the special meeting held at Albany July 20 the stockholders of the New York Central & Hudson River Railroad voted in favor of consolidation with the Lake Shore & Michigan Southern Railway and the Michigan Central Railroad. Although a bare two-thirds of the capital stock was represented, that voted was almost unanimous for the merger.

Large Subway Contracts Executed in New York

New York subway contracts aggregating $21,035,185 were executed last week by the Public Service Commission for the First District. The largest of these were for the Whitehall Street tunnel under the East River, described on page 92 of this issue, and the Old Slip tunnel under the same river. Each of these contracts amounts to about $6,000,000.

Students Win Prizes for Highway Papers

Awards have been made in the competition announced several months ago (see Engineering Record of March 14, 1914) by the Barber Asphalt Paving Company for papers from engineering students on the subject "Asphaltic Materials for Highway Construction." The judges of the competition, E. J. Mehren, editor of the Engineering Record, and H. P. Gillette, editor of "Engineering and Contracting," have made awards of prizes of $100 each to the following contestants: Frederic O. X. McLoughlin, of New York City, a student at Columbia University; Harry Schindler, of Brooklyn, N. Y., Cornell University; B. J. Fletcher, of Parrott, Ga., University of Georgia; John W. Hill, of Chicago, Ill., University of Illinois; Robert S. Johnson, of Ireton, Iowa, Iowa State College; M. V. Holmes, of Kansas City, Kans., University of Kansas; F. P. Gilbert, of Beverly, Mass., Massachusetts Institute of Technology; Harold P. Lalonde, of Sault Ste. Marie, Mich., University of Michigan; Benjamin Wilk, of Virginia, Minn., University of Minnesota; Alvin C. Smith, of Lyons, Neb., University of Nebraska; O. H. Gosswein, of St. Louis, Mo., Purdue University; Alfred A. Berkowitz, of New Britain, Conn., Sheffield Scientific School, and W. J. Campbell, of Cohoes, N. Y., Syracuse University.

The purpose of the competition was to turn the attention of engineering students to street and road construction as a promising field of work. The company offering the prizes believes that the plan was successful in this direction.

Offer Course in Aeronautical Engineering at Massachusetts Tech.

Outlines of a course in aeronautical engineering have just been issued by the Massachusetts Institute of Technology, the first of the kind in the country. The prospectus is issued from the department of naval architecture and beginning with the academic year, 1914-15, the Institute offers a graduate course leading to the degree of master of science, which is open to graduates of the Institute in mechanical engineering, electrical engineering and naval architecture and to graduates of other colleges whose preparation is equivalent to the work required for the bachelor's degree in one of these courses. The course is intended to furnish training in the design and construction of air-craft, dirigibles, aeroplanes and hydro-aeroplanes.

The courses will be under the general direction of Professor Cecil H. Peabody, head of the department of naval architecture and marine engineering, and will be conducted by Assistant Naval Constructor Jerome C. Hunsaker, U. S. N., who is detailed for the service by the Secretary of the Navy.

Engineer Aided in Drafting New St. Louis Charter

On June 30 the city of St. Louis adopted a new charter which provides for a single legislative body, a rearrangement of administrative officers and the use of the initiative, referendum and recall. The charter was drafted by the Board of Freeholders, consisting of six lawyers, six business men and one engineer, the latter being Edward Flad. Under the new charter the city will be allowed to build and own its own street railway and lighting utilities.

Missouri Chooses Road Days

Governor Major of Missouri has issued a proclamation designating Aug. 18 and 19 as "Road Days" in that state. It is expected that a greater number of men will aid in the work than did last year, when 250,000 worked, and it is thought that the period will be informally extended.

Longest Lock Nearing Completion

The new third lock for the canal at Sault Ste. Marie, Mich., is rapidly nearing completion and is expected to be opened for navigation within a month. Its design and construction were described in the Engineering Record of Dec. 21, 1912, page 684. It will be the longest lock in the world. Its dimensions are: Length, 1350 ft.; width, 80 ft., and depth sufficient for boats of 24-ft. draft.

Building Activity in Chicago

Building permits for Chicago structures costing $9,538,300 were taken out during June of this year, according to figures compiled by the secretary of the Chicago building department. This total is $1,928,930 greater than for the same month last year. For the first six months of 1914, 5128 permits were issued for buildings valued at $43,916,600, as against 535 permits totaling $48,164,207 for the first six months of 1913. The loss is ascribed to the brickmakers' strike, which tied up building operations.

Merchants' Association Endorses Plan for Model Street-Cleaning District

Commissioner John T. Fetherston's plan for a model street-cleaning district in New York City, as outlined in the Engineering Record of June 27, has received the endorsement of the Merchants' Association. The initial cost for establishing the proposed model district will be $253,000. This expenditure, it is estimated, will result in an annual saving of $50,000 in maintenance charges.

Merge Power Interests into New Company

The Chippewa Valley Railway, Light & Power Company has recently been merged with the LaCrosse Gas & Electric Company, a subsidiary of the American Public Utilities Company. Through the ownership of common stock it controls and operates the new property under the name of the Wisconsin-Minnesota Light & Power Company. The new company owns hydroelectric generating plants on the Chippewa and Menomonie Rivers in the State of Wisconsin, with a present installed capacity of 10,000 hp. The largest development is situated on the Menomonie River at Cedar Falls, with a present capacity of 5300 hp. The capacity of this plant may be doubled at any time. The other plants are located as follows: On the Menomonie River, 3 mi. below Cedar Falls, a central station of 1600-hp capacity; on the Chippewa River at Chippewa Falls, two developments with a combined capacity of 2400 hp, and at Eau Claire, a small plant of 700 hp. Power generated at Menomonie is delivered over a 33,000-volt steel-tower transmission line, 37 mi. long, to the Red Wing Gas & Electric Company for distribution in Red Wing, Wabasha and Lake City, Minn. The company also operates the gas and water plants in Chippewa Falls, and has power lines to Spring Valley and Bloomer. It owns a total of more than 100 mi. of transmission lines. In LaCrosse the company owns a gas plant and two steam plants and operates an extensive hot-water heating system.

On the Chippewa River there are three water powers with an aggregate head of 132 ft., capable of developing 85,000 hp. In connection with this development is available a storage capacity of 7,000,000,000 cu. ft., assuring continuous power in times of low water. This potential power is 90 mi. from St. Paul and Minneapolis. On the Menomonie River, 65 mi. from St. Paul, the company owns three water powers with an aggregate head of 102 ft., capable of developing 30,000 hp. There is a storage system of 4,500,000,000 cu. ft. now in use in connection with the operating plants on the Menomonie River, giving an even flow

of water in this river at all seasons of the year.

The authorized capital is $5,000,000 in 7 per cent cumulative preferred stock, of which there is outstanding $1,500,000. The common stock authorized is $5,000,000 (all owned by the American Public Utilities Company), of which there is outstanding $988,000. The bonded indebtedness first and refunding 5 per cent mortgage bonds authorized, including those reserved to retire underlying issues, is $20,000,000; issued, $3,750,000. The Harris Trust & Savings Bank, of Chicago, purchased all the outstanding issue of bonds except those reserved for future purposes, amounting to $2,265,000, and Paine, Webber & Company purchased the entire issue of preferred stock, amounting to $1,500,000. The properties are operated by Kelsey, Brewer & Company, of Grand Rapids, Mich., who operate the American Public Utilities Company.

Research Organization at Massachusetts Institute of Technology

In a recent statement describing the work of the electrical engineering research division of the Massachusetts Institute of Technology the organization of the laboratory staff is outlined. On July 1 nine associates and assistants were exclusively occupied in investigations. Reports of progress are made to a research committee within which is an executive committee of three members, including a chairman. The committee as a whole meets monthly during the school year, and by the recent co-operative agreement with Harvard University, the advice and experience of the electrical instructing staff at each institution are available in connection with research matters. Among the investigations in hand or recently completed are a study of the methods of handling freight at the Boston railroad terminals, which will be summarized at a fall meeting of the New York Railroad Club; an analysis of the relative costs of horse, gasoline and electric vehicle service; measurements of the alternating current resistance of rails of various compositions at frequencies up to 60 cycles, and a number of purely electrotechnical researches.

New Construction Activities

Although prices are still low, probably at the bottom, the steel market is stronger and it seems generally conceded that the turning point was passed in June. The railroads have ordered 200,000 tons of rails, 4,000 cars and 40 locomotives since July 1. The Hocking Valley Railroad Company has reopened its freight repair shops at Logan, Ohio, employing 300 men, and at Columbus, employing 250 men, which have been idle since April 1. The Pittsburgh mills are also re-employing men.

A striking highway letting will be held in Ohio Aug. 4, the State highway commissioner being prepared to award construction of 194 mi. of roads at a cost of about $2,500,000. The Greater Winnipeg Water District Commission is preparing to advertise the construction of the 85-mi., $8,000,000 aqueduct necessitated by this Canadian project. A large contract has been let on the New Orleans drainage project. The Customs House at Ottawa, Ont., is to be built for $1,173,000, and the general building situation on the Pacific Coast seems live.

Highways and Paving

Ohio is preparing to let contracts for 194 mi. of roads, to cost about $2,500,000. Proposals for about $500,000 worth of block paving in Hillsborough County, Florida, are asked. At San Antonio, Tex., contracts have been awarded for pavements costing $225,000. Bids are asked by the Illinois Highway Commission on $115,000 worth of construction. Boise, Idaho, requests bids on the construction of 195 mi. of natural roads. Contracts for $225,000 worth of State-Aid roads were awarded in Pennsylvania, and, in addition, $80,000 worth was held up. Bonds for $150,000 were voted in Vanceburg, Ky.; and in Miami, Fla., bids will be opened Aug. 6 for the laying of about 95,000 sq. yd. of block or macadam road.

Water and Sewers

Schenectady, N. Y., is asking bids on a 20,000,000-gal. reservoir. It is reported that bids are desired by the Greater Winnipeg Water District, Winnipeg, Manitoba, for constructing the 85-mi. concrete aqueduct of the Shoal Lake project. The cost will be about $7,730,000. Toledo, Ohio, expects to build a pumping station costing $180,000. Contract for boilers and pumping machinery for the Belmont Pumping Station, Philadelphia, has been awarded, the total cost approximating $173,000.

Sewerage contracts aggregating $270,000 have been let at San Antonio, Tex. The city engineer at Hamilton, Ont., has completed plans for a sewage disposal system involving changing the present plant and adding tanks. The estimated cost is $160,000. Bids are reported desired at Houston Heights, Tex., for constructing a 30-mi. sewerage system.

Bridges

Bids for the construction of two highway bridges across the Mohawk River, near Amsterdam, N. Y., were opened, the low bids being $147,400 and $164,000. It is reported that the Southern, Norfolk & Western and Chesapeake & Ohio Railroads have agreed, with the co-operation of the city, to erect a reinforced-concrete bridge across the tracks of the systems and over the James River at Lynchburg, Va., at a cost of $300,000. Bonds of $1,250,000 for building the Interstate Highway Bridge over the Columbia River, between Portland and Vancouver, Wash., were declared valid by the Supreme Court of Oregon. The Louisville & Nashville Railroad is calling for bids on constructing a reinforced-concrete viaduct at Birmingham, Ala., to cost $350,000. Contracts have been awarded at Tacoma, Wash., for erecting a bridge, the cost to be $250,000. The Allegheny (Pa.) County engineer is preparing plans for a bridge across the Ohio River near Pittsburgh; the probable cost is $1,750,000. Houston, Miss., wishes to sell $100,000 worth of bridge bonds.

Hydraulic and Kindred Development

Bids are asked at Pensacola, Fla., for $400,000 dock and belt railroad improvement bonds. At Union City, Tenn., bids are asked for 468,000 cu. yd. of ditch work and the clearing of 125 acres of right-of-way. It is stated that a purchaser has been found to complete the $1,500,000 irrigation system undertaken by the Oregon-Basin Irrigation Company at Basin, Wyo. Contracts have been awarded at New Orleans for sections of a drainage system. The contract prices total $365,000. The Mayor of Rochester, N. Y., has signed an ordinance for deepening the Geneseo River Channel for flood protection, at a cost of $400,000. Bids will be asked for erecting a $5,000,000 dry dock at Esquimault, B. C. Bids are asked for building a causeway across Nueces Bay, near Corpus Christi, Tex., connecting Nueces and San Patricio Counties. The cost will be $165,000.

Miscellaneous

At Seattle sale of $480,000 bonds for a steam power plant and $400,000 for raising Cedar River dam has been authorized. Plans have been completed for a $100,000 theatre in Spokane, Wash., a $150,000 office building at Billings, Mont., and a $200,000 building at Victoria, B. C. Contract for a steel and concrete hospital at Edmonton, Alta., has been awarded at $175,000. The only bid received for roofing superstructures along the Catskill aqueduct, near New York, was for $111,947. An electric railway is projected near Healdsburg, Cal., and a company has been incorporated to build another from Amboy to Princeton, Ill. Contract for erecting a $100,000 concrete stadium at McGill University, in Montreal, has been awarded, and plans for a $350,000 drill hall at Cornell University, Ithaca, N. Y., are ready. A hospital costing $160,000 is to be built at Norwalk, Cal. An appropriation of $550,000 has been made to finance the construction of a Federal immigration building at Baltimore. Contract for building the Customs House at Ottawa, Ont., has been awarded at $1,173,000. Two more structures for the Panama-Pacific Exposition will soon be under way—the Alabama building, to cost $100,000, and the "Irish Village," to cost $150,000. Contract is reported awarded by the Southern Railway Company at Danville, Va., for constructing a 13-mile, $247,000 line. North Vancouver, B. C., is considering building a $5,000,000 drydock. Bids are asked for $200,000 in bonds for dredging the harbor at San Diego, Cal., and bids will be asked for $175,000 worth of wharf and dock site bonds at Beaumont, Tex. It is reported that more than $10,000,000 will be expended in the province of Alberta, Canada, in carrying out the 1914 construction work of the Canadian Northern Railway. Contracts have been awarded for buildings at the following places: Toronto, $500,000; Dayton, Ohio, $500,000, and Detroit, $300,000. Buildings are projected at Oconomowoc, Wis. ($200,000), Greenwich, Conn. ($200,000), and Cleveland Heights, Ohio ($200,000).

News of Engineering Societies

The Illuminating Engineering Society will hold its eighth annual convention in Cleveland Sept. 21-25.

The Western Society of Engineers held a summer excursion July 25 to the clearing yard of the Belt Railway Company, of Chicago, where construction is well advanced on a 10,000-car-per-day gravity yard, locomotive and car repair shops and an engine terminal. A brief stop was made at the new 273-ft. two-track skew lift bridge of the Pennsylvania Railroad over the Chicago River and at the Seventy-ninth Street grade-separation work where the Chicago, Rock Island & Pacific Railway crosses the Chicago & Western Indiana Railroad at an angle of 17 deg. and is using steel and wood forms supported by a traveling gallows for 40-ft. retaining walls.

Personal Notes

John A. Saxe, city engineer of Scranton, Pa., has been reappointed for a term of two years.

W. C. Barrett has been appointed division engineer of the Lehigh Valley Railroad, with office at Sayre, Pa.

Prof. Leon D. Conkling, associate professor of civil engineering at Lehigh University, has resigned to accept a position at the University of Missouri.

William S. Wollner, engineer in charge of the chief engineer's office of the Northwestern Pacific Railroad, has had his jurisdiction extended over the maintenance of way department.

F. K. Zook, engineer maintenance of way of the Northwestern Pacific Railroad, has been appointed chief engineer of maintenance and structural engineer, with office at San Francisco.

R. L. Cornell has resigned as assistant engineer with the Atlantic Gas & Electric Company at Easton, Pa., to accept a similar position with the Norton Light and Power Company, at Norton, Va.

Lieut. C. W. Fisher, Jr., U. S. N., formerly superintendent of erection in the mechanical division at Panama has been transferred for duty in the United States, and sailed for New York on the "Panama" on June 28.

Capt. Henry C. Jewett, Corps of Engineers, U. S. A., has been relieved from duty with the First Battalion of Engineers and will report to the commandant, Engineer School, Washington Barracks, D. C., for duty at the school.

Edward N. Lake, of the Stone & Webster Engineering Corporation, is accompanying the

Chicago Railway Terminal Commission on a six weeks' study of European railway terminals. The party sailed on the Lusitania July 14 after several days spent inspecting terminals and terminal plans in Toronto, Montreal, Boston and New York.

Maj. G. A. Youngberg, Corps of Engineers, U. S. A., head of the department of practical military engineering at the United States Military Academy, will assume the title of professor with the rank of lieutenant-colonel. Before the passage of an Act of Congress approved April 15, the title accredited to this position was simply instructor.

W. M. Baxter, Jr., who has been in the Panama Canal service since March, 1911, and who has been employed jointly by the Panama Canal and the Panama Railroad Company since February, 1912, as the official guide and lecturer for visiting parties, resigned, effective June 15, to enter the employ of the L. E. Myers Construction Company, of Chicago, who are building, on a large scale, a complete working model of the Canal, as an exhibit at the International Panama-Pacific Exposition.

Harry Burdett has resigned as secretary and treasurer of F. A. Burdett & Company, Inc., consulting engineers, of New York City, with whom he has been associated for the past nine years, and with W. C. Couch and William P. Rand has opened offices at 303 Fifth Avenue under the firm name of Burdett, Couch & Rand for the practice of architectural and structural engineering. Mr. Couch has been engaged in structural engineering work for fifteen years, the greater part of that time with Post & McCord, of New York City, Fort Pitt Bridge Works, of Pittsburgh, and F. A. Burdett & Company. Mr. Rand has been engaged in engineering work for fourteen years with the Boston Steel & Iron Company, the Stone & Webster Engineering Corporation, of Boston, the Rhode Island Company, and, for the last four years, F. A. Burdett & Company.

Clarence D. Pollock, chief engineer on construction of highways at San Antonio, Texas, has resigned and opened an office in the Park Row Building, New York City, as consulting engineer, specializing in paving practice. Mr. Pollock was graduated in civil engineering from the Massachusetts Institute of Technology in 1894 and in the following year entered the highway bureau of the Borough of Brooklyn, N. Y., as assistant engineer. In 1900 he became senior assistant engineer in the sewer division of the New York Rapid Transit Railroad Commission. From 1902 to 1907 he was assistant engineer in charge of pavements in Brooklyn, becoming principal assistant engineer of highways in New York City in 1907. From 1910 to 1912 Mr. Pollock was acting chief engineer of this bureau. In the latter year he went to Cuba as engineer in charge of pavements in Havana, going to Texas in November, 1913, to undertake the work he is now leaving.

Thaddeus Merriman, department engineer of the Board of Water Supply of the City of New York, and executive assistant to J. Waldo Smith, chief engineer, has been promoted to fill the vacancy caused by the promotion, noted elsewhere in this issue, of Alfred D. Flinn. Mr. Merriman will assume entire charge of the headquarters department in New York. He was born in 1876 in Connecticut, and was graduated in civil engineering from Lehigh University in 1897; his first position was with the Nicaragua Canal Commission. In 1902, after three years divided between the Isthmian Canal Commission in Nicaragua, the New York Continental Jewell Filtration Company and the Guayaquil & Quito Railway Company, of London, he became assistant engineer on the Boonton dam for the Jersey City Water Supply Company, later becoming division engineer. Since 1905 Mr. Merriman has held his present position of assistant to the chief engineer of the Board of Water Supply.

William B. Gray, general superintendent for S. Pearson & Son, Inc., of New York City, has opened an office at 2 Rector Street, New York, for general engineering and contracting practice. Born at Wilmington, Del., in 1867, Mr. Gray gained his first engineering experience in 1883 and 1884 as axman and rodman with the Baltimore & Ohio Railroad. After completing in 1887 a course in civil engineering at Delaware College, he spent two years as engineer for Thomas H. Gray on road construction and other work. After engaging in sewer work in Philadelphia in 1889, he spent most of the period ended 1901 as a highway contractor. From 1901 to 1908 he was connected with H. S. Kerbaugh, Inc., first as foreman and then as superintendent on various railroad contracts, and from 1908 to 1910 he continued with the reconstructed firm, Steward-Kerbaugh-Shanley Company, first as superintendent on state road construction and later as general superintendent on the Catskill aqueduct, contract 11. In 1911 he was chief engineer and general manager for George W. Jackson, Inc., on contract 54 of the Catskill aqueduct, since when he has held the position which he is now relinquishing.

J. W. Williams, assistant chief engineer of the Northwestern Pacific Railroad, has been appointed chief engineer of construction, succeeding William C. Edes, resigned, with headquarters at San Francisco. Mr. Williams, who will be the senior engineer on all construction work, was born in 1879 at Milan, Ohio. He graduated from high school in 1897 and began railway work in 1900 as chainman on location survey on the Albuquerque Eastern Railroad. During 1901 and 1902 he was with the Santa Fé Central Railroad as chainman, levelman and transitman on location and construction; in 1903 he was employed as transitman on location surveys for the Eastern Railway of New Mexico, and with the San Francisco & Northwestern Railroad in California, where he was employed on location surveys. In 1904 and 1905 he was assistant engineer on construction of the Oakdale Western and the Fort Bragg & Southeastern Railroad, and in 1906 served in the same capacity on the San Francisco & Northwestern Railroad, making various surveys and investigations. Mr. Williams was made acting chief engineer of the latter road in 1906, and when the Northwestern Pacific was formed in 1907 by the consolidation of several northern California lines, he was appointed assistant chief engineer.

George T. Seabury and Albert A. Northrop have associated themselves under the name of Seabury and Northrop, Inc., as consulting and constructing engineers, specializing in the investigation of hydroelectric developments and the supervision of general construction. Both are members of the American Society of Civil Engineers, and both have been connected with large engineering undertakings. Mr. Seabury was engineer for John C. Rodgers on construction of Riverside Drive, New York, and for John F. O'Rourke on the early work of the Grand Central Terminal improvement. For eight years he has been with the New York Board of Water Supply, engaged first in the preliminary investigations for the Olive Bridge dam and the Ashokan reservoir; then for two years as one of the two personal assistants to Chief Engineer J. Waldo Smith, and for the past four years as first assistant to the division engineer, in charge of the construction of the $8,000,000 Kensico dam at Valhalla and of that portion of the Catskill aqueduct adjacent to the Kensico reservoir and involving the elaborate and complicated control works. Mr. Northrop's early experience was in railroad construction and maintenance. He was also with the Board of Water Supply, and for them was in direct charge of the construction of the Olive Bridge dam. For the past four years Mr. Northrop has been the personal representative of John R. Freeman, consulting engineer, for whom he had charge of the construction of the Holten dam in Montana. He has made investigations and reports of various hydroelectric developments, and was auditing engineer of the construction of the Keokuk dam. The office of the new company is at 101 Park Avenue, New York City.

Obituary Notes

George Stewart, a civil engineer employed by the American Coal Products Company, of New York, died July 15 in Brooklyn. Mr. Stewart was born in England in 1840.

Commodore William Sturtevant Moore, officer of the old U. S. Engineer Corps, died at his summer home in Duxbury, Mass., July 12. He joined the navy as acting third assistant engineer in 1866, became third assistant in 1868, passed assistant in 1876, and chief engineer in 1893. Commodore Moore was promoted to commander on the abolition of the old Engineer Corps. He was retired with the rank of commodore June 30, 1906. With two exceptions he was the senior commodore on the retired list.

William Bleecker Potter, a mining engineer, died July 14 at his home in St. Louis. Mr. Potter was born in Schenectady, N. Y., in 1846, and was graduated from Columbia University in 1866, receiving the degrees of A.M. and E.M. in 1869 and the honorary degree of Sc.D. in 1904. He taught geology, mining and metallurgy at Washington University for many years, and, in addition, was an assistant in the Missouri Geological Survey from 1872 to 1874. He founded and since 1893 had been manager of the St. Louis Sampling & Testing Works.

Civil-Service Examinations

Chicago.—An examination will be held Aug. 7 to secure eligibles for the position of principal sanitary chemist in the health department, at a salary of $1920 to $2520 per annum. At the same time an examination will be held to secure eligibles for the position of senior sanitary chemist at a salary of $1620 to $1800 per annum. Local residence is waived in both instances. Application should be made to the Civil Service Commission, City Hall, Chicago.

Philadelphia.—An examination will be held Aug. 10 to secure eligibles for the position of principal assistant, bureau of surveys, department of public works at a salary of $1800 to $2000 per annum. Three years' experience in city surveying and preparing plans for branch sewers and street paving is required. Local residence is waived. An examination will be held on the same date to secure eligibles for the position of first assistant in the bureau of surveys at a salary of $1200 to $1400 per annum. The address of the Civil Service Commission is Room 875, City Hall, Philadelphia.

Examinations Previously Announced

Date		See Eng. Record
July 25—	Office assistant for preparation of highway specifications	July 4
Aug. 5-6—	Heating and ventilating engineer, U. S.....	July 11

Coming Meetings of National Engineering Societies

AMERICAN SOCIETY OF CIVIL ENGINEERS. Secretary, Charles Warren Hunt, 220 West 57th St., New York. Meets first and third Wednesday, except in July and August.

AMERICAN SOCIETY OF MUNICIPAL IMPROVEMENTS. Secretary, C. C. Brown, Indianapolis, Ind. Next convention will be held Oct. 6 to 9, inclusive, at Hotel Somerset, Boston, Mass.

AMERICAN SOCIETY OF ENGINEERING CONTRACTORS. Secretary, J. R. Wemlinger, 11 Broadway, New York. Meets second Thursday in New York, except in July and August.

AMERICAN WATER WORKS ASSOCIATION. Secretary, J. M. Diven, 47 State St., Troy, N. Y.

AMERICAN SOCIETY FOR TESTING MATERIALS. Secretary, Prof. Edgar Marburg, University of Pennsylvania, Philadelphia.

SOCIETY FOR PROMOTION OF ENGINEERING EDUCATION. Secretary, Dean F. L. Bishop, Engineering Dept., University of Pittsburgh, Pittsburgh.

CANADIAN SOCIETY OF CIVIL ENGINEERS. Secretary, Clement H. McLeod. Meets Thursdays, in Montreal, except during the months of May to September, inclusive.

INTERNATIONAL IRRIGATION CONGRESS. Twenty-first session will be held Oct. 5 to 9, inclusive, at Calgary, Alberta, which is the address of the secretary.

Fire Test on Metal Lath Partition

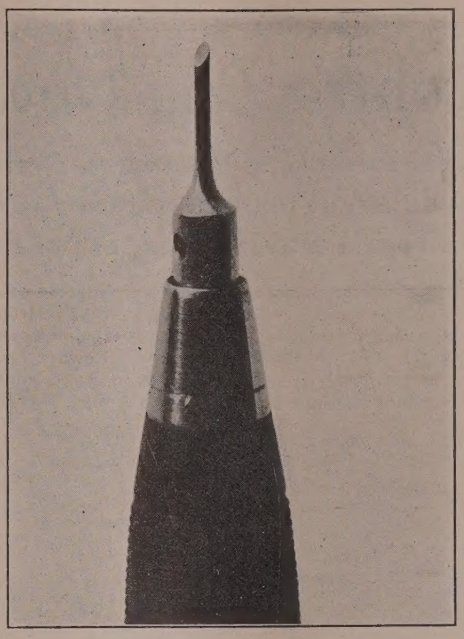
A wall, 2½ in. thick, made of cement plaster on expanded metal, was tested at the Columbia University fire-testing station at Greenpoint, N. Y., July 17. The wall was built in accordance with standard specifications and the mortar was mixed 1:2½. The body of the wall had 0.1 hydrated lime in the mixture, while the finishing coats on both sides were made of neat cement mortar. Originally it was intended to test a gypsum partition at the same time and one was erected, but a few days before the test the gypsum companies had the partition ripped out and replaced with a brick wall at their expense. The test was conducted in accordance with the standard specifications, the temperature being brought up to 1700 deg. Fahr. in ½ hr. and maintained for 2½ hr. Water from a hydrant was then sprinkled on the wall and it was found that on the inside the finish coat had spalled off at the joint with the body of the wall. The metal lath was not exposed in any place. The wall, however, had several cracks, especially at the sides, and had buckled inward several inches. The temperature on the outside of the partition rose to about 400 deg. Fahr., but it was not sufficient to fire paper and cloth pieces nailed to the partition inside of an isolated box. A complete report of the test is in course of preparation.

Making Tracings without Ink

A new drafting fabric recently put on the market by the Universal Drafting Machine Company, of Cleveland, allows the making of blueprints from the original drawings, without requiring the use of either ink or pencil, in addition to furnishing a clear, permanent record. The fabric is a cloth covered with a thin skin of hard brown material, which, it is said, is easily worked upon with a beveled steel point, but does not suffer from the scratching incident to drafting.

This drafting point is shown in one of the illustrations. It is stated that it may be used as quickly as a pencil, readily parting the brown preparation and producing clean-cut, white lines which form a strong contrast with the colored surface. Light lines and heavy lines may be made with the same point, different widths being gained by varying the pressure. The claim is made that the drawings are durable and do not show soil or change color.

Erasure is readily effected by means of an ordinary writing pen, which is simply drawn through the shallow groove made by the line which it is desired to eliminate. Lines may then be drawn through this correction as readily as through the brown surface. It is also very simple to change a full line to a dotted line. The steel point used may be easily inserted into any compass when it is desired to do circular work.



METAL DRAFTING POINT

Blueprints made in the ordinary way give dark lines on a white ground, and are made at about the same speed as from an ordinary tracing. There are, of course, several ways in which they may be reversed, if desired. Blueprints may be made at any stage of the drawing.

The manufacturer has sent several photographs, other than those shown, demonstrating the use of the fabric.

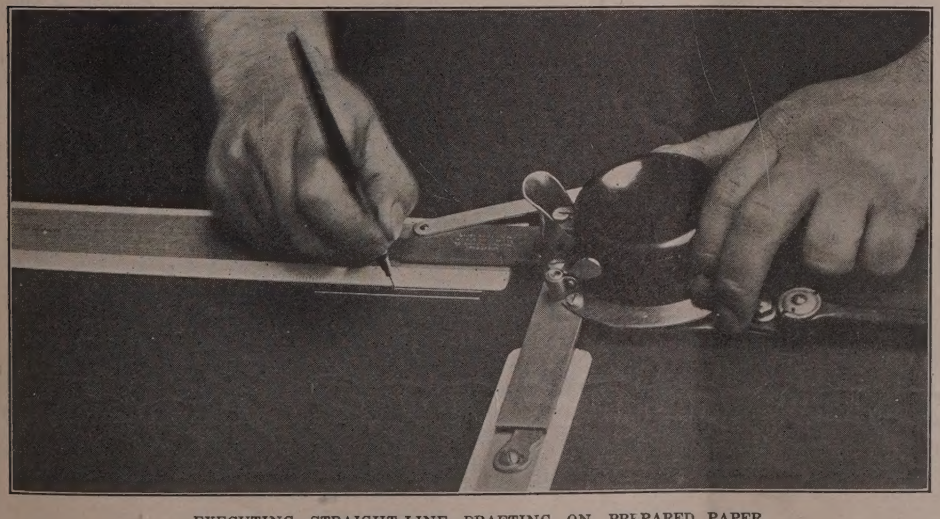
These indicate the clearness and accuracy with which detail drawings of maps and structural and mechanical subjects may be made. One of the halftones on this page indicates the manner in which work is done on the cloth in connection with the drafting machine. It will be seen that the operation is mechanical only.

Among the advantages claimed for the new device are saving in cost and in time, elimination of errors in tracing, easier checking, a clear, durable drawing, freedom from eyestrain, as it limits the necessity for artificial lighting, and the use of a drafting point that is free from change of shape.

Business Notes

Purdy & Henderson, civil engineers, are now located at 445 Henry Building, Seattle, Wash.

The Flynt Building & Construction Company, of Palmer, Mass., has established a branch office in Portland, Maine, at 536 North Congress Street. Frank M. Churchill has been placed in charge.



EXECUTING STRAIGHT-LINE DRAFTING ON PREPARED PAPER

Joseph T. Ryerson & Son, of Chicago and St. Louis, have established a steel warehouse in St. Louis, having taken over the plant of the W. G. Hagar Iron Company. The warehouse will be operated as a branch.

The Thurlow Steel & Forging Company, of Chester, Pa., has opened a plant for the manufacture of steel forgings under the management of John I. Rogers and Daniel C. Eagan, owners and operators of the Eagan-Rogers Steel & Iron Company, at Crum Lynne, Pa.

Frederick O. Ball, general manager of the American Engine & Electric Company, of Bound Brook, N. J., has resigned to engage with his father, Frank H. Ball, in the manufacture and sale of carbureters. The firm name will be Ball & Ball, and headquarters will be in Detroit.

The American Boiler Manufacturers' Association will hold its twenty-sixth annual convention in New York City Sept. 1-4, with headquarters at the Waldorf-Astoria Hotel. The subject of uniform boiler specifications will be given special attention. The secretary is F. B. Slocum, West and Calyer Streets, Brooklyn, N. Y.

The Terry Steam Turbine Company, of Hartford, Conn., has received several foreign orders. A large order, influenced by an earlier one, has just been executed for the Italian navy, and another private order is being filled for a manufacturer in that country. The capacity of the plant has been increased about 25 per cent.

Trade Publications

The Ric-wil Underground Pipe Covering Company has issued a new catalog dealing with underground conduits for steam pipes. "Ric-wil" products are described and illustrated in detail. The booklet is well prepared and contains quite a bit of interesting reading and data.

The Chapman Valve Manufacturing Company, of Indian Orchard, Mass., has issued a "Water Works" edition of its catalog and price list of couplings, cocks, specials, valves, hydrants and boxes. The book is of the "vest-pocket" size, illustrated, and attractively gotten up.

The Duff Manufacturing Company, of Pittsburgh, has issued a catalog illustrating twelve different groups of jacks comprising more than ninety different varieties, including the Barrett, Duff, ball-bearing, screw, the Duff-Bethlehem jacks, and the Dunn and Alliance trench braces made exclusively by this company.

The Sullivan Machinery Company, of Chicago, describes the Sullivan rock channeler machine in Bulletin 68A, explaining the economy in excavation, safety for adjacent structures, and cutting capacity, and illustrates and describes the work on the Chicago Drainage Canal, the Catskill Aqueduct, Niagara Falls wheelpit, Panama and New York barge canals, tunnels and other contracts.

The Babcock & Wilcox Company, of New York City, has recently issued two new illustrated catalogs. The first deals with steam superheaters and contains an exceedingly interesting treatise on the properties of superheated steam. The second catalog describes chain grate stokers, and gives the results of various tests. Both catalogs are extremely handsome books, of an unusually high caliber.

The Ingersoll-Rand Company, of New York City, has issued Bulletins 8011 and 8011-1, which deal with the "Little David" riveting hammer and rivet set retainer respectively. A 32-page illustrated catalog entitled "Form 4020" has been recently issued. This booklet contains a description of the "Teyner Ingersoll" water drills. A booklet containng a reprint of an article by E. R. Johnson, in "Scribner's Magazine" for July, 1913, has been issued. The book is used to illustrate the use of "Ingersoll-Rand" rock drills, and accomplishes its purpose.

Contracting News

Of Special Interest to Engineers, Contractors, Builders and Manufacturers of Engineering and Building Supplies

WATERWORKS.

Items Arranged Geographically

Portsmouth, N. H.—The Bd. Pub. Wks. has prepared plans for an extension of Peverly Brook water system to supply entire business section; also a duplicate system of fire service; also for removal of old spiral pipe line.

★**Arlington, Mass.**—Contract for constructing waterworks (bids opened July 14) awarded to Des Moines Bridge & Iron Co., Des Moines, at $15,350. H. C. Meffert, Village Clk.

Boston, Mass.—Bids desired until July 31 by Metropolitan Water and Sewerage Bd., Boston, for Contr. 361, constructing foundation for steel reservoir or tank on summit of Bellevue Hill, West Roxbury Dist. of Boston; also Contr. 360, laying 5000 lin. ft. 20-in. c.-i. water pipe leading from reservoir.

Boston, Mass.—Construction of high pressure fire service pumping station in Fort Point Channel, about 500 ft. from the South Station contemplated.

★Contract awarded July 15 by Comr. Pub. Wks. for laying and relaying water pipe in Columbus Ave., Roxbury and city proper, to M. De Sisto, 13 Sheafe St., Boston, at $15,471.

Thompsonville, Conn. — Thompsonville Water Co. reported contemplates improvements.

Albany, N. Y.—See "Public Buildings and Schools."

★**Albany, N. Y.**—Contract reported awarded to Jas. C. Nolan for improvements and additions to pumping station at $38,000.

Cohoes, N. Y.—R. W. Sherman, Ch. Engr., Conservation Comn., Albany, has submitted a report in which he favors the Alplauskill River as the best source of water supply for Cohoes, Watervliet, Green Island and Waterford, combined in the Charlton Union Water Dist. He estimates the cost of the water works at $1,830,000, and the operating at $137,742.

Lestershire, N. Y.—Bids desired until July 30 by Bd. Village Trus. for $10,000 bonds for enlarging and improving pumping system at water works on Broad St.

North Tonawanda, N. Y.—Bd. Public Works reported to be considering increase of pumping capacity of water system.

Schenectady, N. Y.—Bids desired until Aug. 5 by Bd. Contract & Supply for furnishing material and constructing a 20,000,000 gal. covered reservoir on Bevis Hill, in Niskayuna, near easterly boundary of city, advertised in Engineering Record.

Ward's Island, N. Y.—Bids desired until July 27 by State Hospital Comn., Albany, for repairs to 12-in. water main under river at Manhattan State Hospital, Ward's Island. Lewis F. Pilcher, Archt., Capitol, Albany.

Duquesne, Pa.—Richard Kommers, Pittsburgh, reported selected to prepare plans and superintendent reconstruction of water works.

★**Philadelphia, Pa.**—Contract 232, boilers and pumping machinery for Belmont Pumping Station awarded by Dept. Pub. Wks., Bureau of Water, as follows: Boilers, to Wickes Boiler Co., $55,761; piping, to Wm. Anderson, at $20,450; blast fans and turbines, to Kerr Turbine Co., at $3,188; centrifugal pumps, to Dravo-Doyle Co. at $79,750; miscellaneous pumps, to Earle Gear & Machine Co., at $5,800; water softening tanks, to John Baizley, at $5,673; hydraulic lift, to Robt. Wetherill Co., at $2,232.

Pittsburgh, Pa.—Bids desired until Aug. 6 by City Comptroller for laying 20-in. c. i. pipe in Squirrel Hill Sect.; 20, 12, 10 and 8-in. in Wood Run Sect., and 36-in. c. i. pipe and furnishing and laying 48 and 42-in. riveted steel pipe and appurtenances in Lawrenceville Sect. and on North Side, advertised in Engineering Record.

★**Richland, Pa.**—Contract awarded to U. S. C. I. Pipe & Fdry. Co. for furnishing 165 tons of 6 and 8-in. c. i. pipe at $21 per ton.

Charleston, S. C.—Citizens voted $30,000 bonds for extension of waterworks system and installation of sewerage system.

Walhalla, S. C.—See "Power Plants, Gas and Electricity."

Walterboro, S. C.—Citizens voted $18,000 bonds for construction of water works.

Birmingham, Ala.—City Comn. has directed City Engineer to report to Board of Comrs. most feasible plan for a municipally owned and operated water works plant.

Hazel, Ky.—Claude Orr, of Crossland, secured a franchise to establish a water plant at Hazel.

Columbus, O.—Bids desired until July 28 by Director Public Service for furnishing and delivering 2500 ¾ in. and 50 1½ in. corporation cocks and 2500 ¾ in. and 50 1½ in. curb cocks. Also furnishing and delivering 1800 tons c.-i. pipe and 130 tons special castings and 25 tons c.-i. valve boxes.

Delta, O.—Bids reported desired until Aug. 10 by Village Clerk for extension to water works.

Ironton, O.—City Council is reported to have approved plans for the filtration plant, to cost $300,000.

Lowellville, O.—Council granted to Jas. J. Durney, Jr., franchise for construction of water works.

Middletown, O.—Plans for waterworks being prepared by Pollard & Ellms, Cincinnati.

Toledo, O.—The proposed pumping station will cost $180,000 and consist of electrically operated centrifugal units; ultimately 12,000 gals. per minute, 300 lbs. pressure; it is to be a high-pressure fire-pumping station. Current for operation to be contracted for from Toledo St. Ry Co. E. F. Neukom, 613 Nasby Bldg., Toledo, designing machinery installation, and W. T. Sherman Co., Nasby Bldg., designing the station and dock on river. Bids for construction will probably be received in 2 months.

Aurora, Ill.—City Council will soon vote on a $60,000 bond issue, the money to be used in sinking two new artesian wells. Theo. Stinson, Supt. Water Wks.

Chicago, Ill.—Bids desired until July 30 by Clerk Sanitary Dist, Chicago, 910 S. Michigan Ave., for Div. "A," furnishing and installing electrical equipment in 39th St. Pumping Station; Div. "B," steam and water piping in same station for a 4000-kw. turbine unit; Div. "C," constructing a concrete block annex to Terminal Station, 31st St. and Western Ave.; Div. "D," electrical equipment in Terminal Station annex; Div. "E," 4 transformers; Div. "F," duct insulated lead-covered cable.

Pekin, Ill.—Bids desired until Aug. 12 by Pekin Water Wks. Co., at office of their engineers in Chicago, for removing present steel tank from the supporting stone tower and constructing and erecting thereon a new steel tank, advertised in Engineering Record. Alvord & Burdick, Engrs., Hartford Bldg., Chicago, Ill.

Quincy, Ill.—Citizens Water Wks. Co. (W. R. Gelston, Supt.) intend constructing c. i. intake pipe for waterworks; cost, $25,000.

Rock Island, Ill.—Bids desired until Aug. 10 by W. Treichler, City Engr., for a 6,000,000-gal. centrifugal pump, motor drive, for waterworks plant.

★**Winfield, Ia.**—Contract for constructing waterworks awarded July 8 to Des Moines Bridge & Iron Co., Des Moines. Edwin P. Anderson, City Clk.

Ceylon, Minn.—See "Power Plants."

★**Marble, Minn.**—Contract awarded to Michael Boylan, Virginia, for installing sewer and water mains at $7,000.

Arma, Kan.—Citizens voted to issue $8,000 bonds for waterworks extensions from plans of Albert C. Moore, Engr., Bartlett Bldg., Joplin, Mo.

Barnard, Kan.—Plans for water works being prepared by Henrici, Kent & Lowry Eng. Co., 715 Reserve Bank, Kansas City, Mo.

McCune, Kan.—Plans for water works to be prepared by Henrici, Kent & Lowry Co., 715 Reserve Bank, Kansas City, Mo.

★**Topeka, Kan.**—Contracts for laying 5230 ft. 4 and 6-in. water mains reported awarded by City Comn. to Gustafson & Co., Topeka, at $4,381.

Ansley, Neb.—Bids desired until noon Aug. 3 by City Clerk for pumping equipment and concrete construction. to cost $4,400. Engineer, Martz Eng. Co., Lincoln.

Dakota City, Neb.—Bids desired until July 29 for constructing water works plant. Alamo Engine Co., Engrs., Omaha. Address City Clk.

★**Herman, Neb.**—Contract awarded July 6 as follows: To Drake, Williams & Morset, Omaha, for standpipe; Bramhall & Son, Tekamah, pump house; Elkhorn Contr. Co., Fremont, pipe line; total cost, $4,411. Engineers, Towl Eng. Co., Omaha.

★**Carrington, N. D.**—Contract awarded on bids opened July 10 for extensions to water mains to Haggart Constr. Co., Fargo, at $14,875. Next 3 lowest bidders: W. C. Fraser, St. Paul, Minn., $15,300; Jas. Kennedy, Fargo, $15,637; Robenson, Van Alstine Co., Grand Forks, $15,650. G. W. Heinmiller, City Engr.

★**Humboldt, S. D.**—Contract for constructing waterworks (bids opened July 10) awarded to Des Moines Bridge & Iron Co., Des Moines, at $9,389. Stanley H. Edmunds, Engr. in charge.

Ipswich, S. D.—Bids desired until Aug. 3 by City Auditor for extensions to water works, including approximately 4622 lin. ft. 4 in. c. i. pipe, with hydrants and valves. Easton & Wells, Engrs., Aberdeen.

Casper, Wyo.—Bids for constructing water works to cost $70,000 desired until Aug. 1. Engineer, C. C. Carlisle, Cheyenne. C. M. Bryan, Town Clk.

Choteau, Mont.—The matter of constructing water works under consideration at the present time, but nothing definitely done. A. L. Powers, Town Clk.

Havre, Mont.—Filtration plant is to be constructed at Havre.

Lewistown, Mont.—All bids for constructing city gravity water system reported rejected, and city will do work by force account; estimated cost, $15,000.

Three Forks, Mont.—City Engr. preparing plans for water system to cost $45,000.

Butler, Mo.—Council has purchased waterworks system from private company and improvements to cost $75,000 are to be made at once. Engineers, Harper & Stiles, Grand Ave. Temple, Kansas City, Mo.

Clarence, Mo.—Henrici, Kent & Lowry Eng. Co., 715 Reserve Bank, Kansas City, preparing plans for water works, deep wells.

★**Kansas City, Mo.**—Contracts awarded as follows: For furnishing yearly supplies and materials, General Chemical Co., Chicago, 94 cts. per 100 lb. for aluminum sulphate; cost per year about $25,000; Brockett Cement Co., 22¼ cts. bu. for lime; cost about $4,000 per year.

Kansas City, Mo.—Bids desired until July 29 by City Purchasing Agent, for furnishing and delivering gate valves.

Neosho, Mo.—Citizens voted $60,000 bonds to extend water system to include 8 miles c. i. water pipe, a 500,000 gal. reinforced-concrete reservoir, a 50,000 gal. elevated tower and tank, and a 500-gal. a minute motor driven centrifugal pump. Albert C. Moore, Engr., Bartlett Bldg., Joplin.

Palmyra, Mo.—Freeman D. Martin, Rialto Bldg., Kansas City, is engineer for the improvement and extension of water works and electric light plant.

Paragould, Ark.—Bids desired until July 30 by Sect. Bd. Water Improv. Dist. No. 2 for furnishing material and constructing a system of water works, advertised in Engineering Record. Rollins & Co., Consulting Engrs., 420 Midland Bldg., Kansas City, Mo.

Rison, Ark.—An improvement district has been organized and Albert C. Moore, Bartlett Bldg., Joplin, Mo., has been retained as engineer for the design and supervision of construction of municipal waterworks and electric light plant; cost about $40,000.

Billings, Okla.—Citizens voted $23,000 bonds for waterworks and $7,000 for electric light plant.

Boulder, Colo.—City Council decided to construct dam at Silver Lake; cost about $50,000, of rock fill construction 100 ft. thickness at base and 12 ft. at top.

Durango, Colo. — Council authorized change of city pipe line route; estimated cost, exclusive of pipe, $7,462; about 8500 ft. of pipe needed costing an additional $10,000.

Hoquiam, Wash.—Negotiations are reported to have been opened with Aberdeen City Council by local City Council for construction of a joint water system; cost $1,000,000.

Kirkland, Wash.—The King County Comrs. at Seattle reported to have granted this city permission to run water pipe line along county road; system will cost $15,000.

Toppenish, Wash.—About $30,000 bonds will be voted shortly for extensions to local water system.

Nehalem, Ore.—Citizens voted to issue $12,500 for purchase of present water works and to construct reservoir and install electric light plant.

Portland, Ore.—It is planned to construct small dam for new intake some time during 1915. D. D. Clarke, Engr., Water Board.

★**El Monte, Cal.**—Contract for furnishing pump awarded to Smith-Booth-Usher Co. at $1,840. R. L. Wood, City Engr.

Imperial, Cal.—Bids desired until July 29 by City Clerk for 1340 ft. 6 in. c. i. pipe, bell and spigot, tees, plugs, etc.

Bedford, Que.—City Council considering construction of water works.

Hull, Que.—Bids soon to be asked by Council for pipe needed in extensions of water mains; probably c. i. pipe will be purchased; cost, $14,330.

Athabaska, Alta.—Bids will probably be received about Aug. 1 for reservoir and concrete for 250,000 gal. filtration plant. C. L. Huff, Town Engr.

★**Kildonan West, Man.**—Contract for construction of water mains on Main St., Jefferson Ave. and Scotia St., at $42,459 awarded to Dominion Constr. Co., and for mains on several other streets to Thos. Jackson & Son at $20,878.

Winnipeg, Man.—Press reports state bids desired until Sept. 19 by Greater Winnipeg Water Dist., Boyd Bldg., for structing 85 miles concrete aqueduct of the Shoal Lake water project, in 5 sections of approximately equal length, costing approximately $8,729,000.

Prince Albert, Sask.—Bids desired until Aug. 1 by City Clerk for furnishing and delivering approximately 20,000 lin. ft. of approximately 6 and 8 in. c. i. or steel water pipe, 19,000 lbs., special castings or special castings for steel pipe, 105 8 and 6 in. gate valves and 30 hydrants; also until Aug. 15 for 2 2500-gal.-per-min. pumps with motors and piping and a 14-in. Venturi meter. Angus Smith, City Engr.

Richmond, B. C.—Council has passed by-law to issue $40,000 bonds for waterworks extensions.

SEWERAGE AND SEWAGE DISPOSAL.

Items Arranged Geographically

★**Fitchburg, Mass.**—Contract awarded July 14 by Sewage Disposal Comn. to Michael Gammino, Providence, R. I., for lateral connections with main sewer, and also about 800 ft. 72-in. concrete sewer, at $37,880. Next 2 lowest bids: McCarthy & Walsh, E. Boston, Mass., $38,453; Wm. J. Donovan, Fitchburg, $40,611. Davis A. Hartwell, Ch. Engr.

★**Bridgeport, Conn.**—Contract for Marion and Wayne Sts. sewers awarded to Petrossi Bros., Hartford, at $9,269; Pierce Mfg. Co., King St. sewer at $1,102; Burns Co., Madison Ave. sewer, $2,320.

★**Hartford, Conn.**—Contract awarded to C. H. Slocomb, Hartford, for constructing extension to Homestead Ave. interceptor and for Westbourne Parkway and overflow sewer (bids opened July 7). Totals of lowest bids reported in Engineering Record of July 18.

New Haven, Conn.—Bids desired until July 27 by F. L. Ford, City Engr., for constructing sewers in portions of Atwater, Dover and Bailey Sts.

Brooklyn, N. Y.—Bd. Estimate authorized public improvements, including paving and sewer work in Borough of Brooklyn, at a cost of $81,600, and Borough of Queens, at $167,800.

Bids desired until July 29 by Boro. President for constructing sewers in W. 19th St. and repairing sewer in 23d St. and constructing sewer basin at 26th St. and Flatbush Ave. Total security, $5,373.

Buffalo, N. Y.—Later reports state new bids to be asked for constructing Hertel Ave. sewer, former contract rescinded.

Construction of 4 ft. 4 in. brick sewer in Calais St., Mineral Spring Ave. to Pennsylvania R.R., has been ordered by Common Council.

★**Glen Cove, L. I., N. Y.**—Contract awarded by Sewer Comn. to Jos. B. Sigretto & Co., New York, to complete construction of sewer system and disposal works. Johnson & Fuller, New York, Consulting Engrs.

★**Medina, N. Y.**—Contract awarded July 14 for constructing addition to sewer system to Fred A. Gott, Hamburg, at $5,500. Frank J. Kearney, Village Clk.

New York, N. Y.—Bids desired until July 27 by President Boro. Manhattan for reconstructing sewers at foot of 48th St., North River, and on W. 115th St.; security, $3,500; also alterations and improvements to sewers in W. 35th and Walker Sts. and Park Ave. Total security, $14,000.

Oneonta, N. Y.—Bids reported desired until Aug. 1 by City Clerk for constructing storm and sanitary sewer. Probable cost, $8,000. F. M. Gurney, City Engr.

Rutherford, N. J.—Bids desired until July 31 by Mayor and Council for laying sanitary sewer in Springfield and Francisco Aves. and storm water sewer in Union Ave.

★**Erie, Pa.**—Contract for sewers awarded as follows: In Raspberry, Cascade and 4 other streets, to Willis Bancroft, Jr., at $15,883; in 19th and Cranberry Sts., Jos. McCormick & Bro., $15,232.

★*Items marked thus give the names of parties awarded contracts.*

Newark, N. J.—Bids opened July 14 by Passaic Valley Sewerage Comrs., Essex ldg., Newark, for Sect. 12 of the Main Intercepting Sewer, consisting of Third River rossing, Town of Nutley and Acquackanonk Township—(a) J. F. Shanley Co., ewark, $129,589; (b) Jas. S. Frazer, New York, N. Y., $135,550; (c) Merrill-Ruckaber Co. and Mason, Hilton & Co., New York, $163,335; (d) Fusco Constr. Co., ewark, $185,525; Cauldwell-Wingate Co., New York, N. Y., $213,792; Oscar Daniels o., New York, N. Y., $220,350.

Unit prices of (a), (b), (c) and (d):

	(a)	(b)	(c)	(d)
arth excav. and refill, in trench and open excav., for 120-in. sewer, twin conduits crossing Third River, inlet and outlet siphon chambers, etc. (lump sum)	$71,372	$65,000	$111,000	$117,000
10 cu. yds. rock excav., in trench and open excav..	4.00	5.00	6.00	5.00
,700 cu. yds. concrete masonry, in place, with Portland cement mortar	9.00	9.00	8.00	10.00
,000 lbs. steel for concrete reinforcement and other purposes	.05	.04	.03	.05
,100 long tons riprap, in place, including gravel backing	2.50	3.50	3.00	3.00
15 sq. yds. granite block pavt., in place	3.50	5.00	5.00	5.00
,000 lin. ft. timber piles, in place	.30	.50	.28	.40
5 cu. yds. brick masonry and appurtenant work, in manholes, laid with Portland cement mortar	15.00	15.00	20.00	20.00

Baltimore, Md.—Bids will be opened uly 29 by Bd. Awards at the office of the ity Register for building lateral sewers nd house connections in Sanitary Dist. o. 43-B, Sanitary Contract No. 137; pproximately 57,000 lin. ft. 8 to 18-in. itr. pipe sewer, 47,000 lin. ft. vitr. pipe ouse connections.

Walterboro, S. C.—Citizens voted $12,000 onds for construction of a sewer system.

Baton Rouge, La.—Bids reported desired ntil Aug. 1 by Mayor and Common ouncil for constructing about 26,000 ft. itr. pipe sewers from 6 to 12 in., toether with necessary c. i. pipes, flush nks, etc. John J. Mundinger, City Engr.

Fayetteville, Tenn.—Georgia Eng. & onstr. Co., of Clayton, submitted lowest d at $48,366 for constructing sewer ystem.

Oakdale, Ky.—Council decided to conruct sewers; cost, $25,000.

Akron, O.—Bids desired until Aug. 11 readvertisement) by Dir. Pub. Service or constructing a sewage treatment ant, advertised in Engineering Record.

Columbus, O.—No bids received July 14 y Co. Comrs. for constructing sewage isposal plant in County Sewer Dist. 1, ast Columbus. Court enjoined Board rom receiving any bids on this work; othing further can be done until the ourts dispose of the matter. John Scott, lk.

Coshocton, O.—City Council has enaged Chester & Fleming, Pittsburgh, to repare plans and specifications for ewage disposal plant.

Dayton, O.—City Commission reported o have authorized the relocation and replacing of storm water sewers on E. 1st t., between Webb and Findlay Sts.; cost, bout $8,000.

Fairport (P. O. Fairport Harbor), O.—ids reported desired until July 28 by obt. Meyers, Village Clk., for 7500 ft. 8 nd 10 in. sewer. J. C. Ward, Engr., ainesville.

Salem, O.—Bids desired by Director ub. Service until Aug. 3 for constructing ewers on W. Main St. B. M. French, ity Engr.

Greencastle, Ind.—A sewer system 9½ iles long, 8 to 18-in. pipe and costing, ncluding disposal plant, $79,905, is conemplated. Part of work will require xcav. through stratified limestone. A. . Lane, City Engr

Evanston, Ill.—Negotiations over diverion of sewage now discharging into Lake lichigan by interceptors to North Shore hannel are again pending between City ouncil and Sanitary Dist. of Chicago.

Geneva, Ill.—Bids desired until Aug. 3 y State Bd. of Administration, Springeld, for sewage settling tanks at State raining School for Girls, Geneva. Mrs. arrie S. O'Connor, Managing Officer of nstitution, Geneva.

★**Pontiac, Ill.**—Contract awarded to reen & Sons Co., Ottawa, for Riverview, iverside and Driving Park sewer sysem, $29,809.

★**Springfield, Ill.**—Contract awarded to pence & Sons, Springfield, for construcion of Ridgely sewer, at $27,000.

New London, Wis.—All bids received by ouncil for sewer work, amounting to 15,000, rejected.

Oshkosh, Wis.—See "Hydraulic Construction and River Improvements."

★**Superior, Wis.**—Contract for constructng lateral sewers in South Superior warded to Wm. Densfort at $14,699.

★**Mason City, Ia.**—Contract awarded uly 20 for constructing 7221 ft. 30, 20 and 5-in. vitr. sewer pipe to S. R. Brown, Mason City.

Perry, Ia.—Bids desired until Aug. 3 by ity for 2400 ft. 8-in. sewer, 2 manholes, flush tanks, 2 lamp holes. Chas. E. Vilson, Engr. in charge, Perry.

★**Wapello, Ia.**—Contract awarded on ids opened July 9 by City Recorder for onstructing brick pipe sewer in combinaion storm, water and sanitary sewer Sub. ewerage Dist. No. 3, requiring 9687 lin. t. 12 to 24 in. pipe sewer, 3992 lin. ft. 4-in ater pipe, etc., to D. E. Keeler, at $15,-07. Total of other bids: Western Constr. Co., $21,726; Cameron, Joyce & Co., $20,-195; Dearborn Constr. Co., $21,810; A. Korneman and R. K. Smith, $29,018; Western Constr. Co. also bid on concrete pipe, at $21,726, and J. H. Behr, at $18,975.

Brainerd, Minn.—Bids desired until Aug. 3 by City Council for constructing sewers, requiring approximately 4714 ft. 8 to 18 in. sewer. C. D. Peacock, City Engr.

Marble, Minn.—See "Water."

★**St. Paul, Minn.**—Contract for constructing Park Ave. and Maryland St. sewer was awarded by City Council July 16 to O'Neill & Preston, at $5,240.

★**Staunton, Neb.**—Contract for 8000 ft. sewers (bids opened July 14) awarded to Briggs & Corey, Shenandoah, Ia., $6,243. Three next lowest bidders: J. L. Gunning, Norfolk, $6,988; Wm. Fitch Co., Omaha, $6,545; Elkhorn Constr. Co., Fremont, $7,248.

★**Carrington, N. D.**—Contract awarded on bids opened July 10 for constructing extension to sewer mains to Haggart Constr. Co., Fargo, $12,599. Next three lowest bidders: W. C. Fraser, St. Paul, Minn., $12,972; Jos. Kennedy, Fargo, $13,-477; Robenson, Van Alstine Co., Grand Forks, $13,377. G. W. Heinmiller, City Engr.

Butte, Mont.—City Council considering constructing sanitary sewers at a cost of $40,000.

St. Louis, Mo.—Bids desired until Aug. 5 by Bd. Pub. Improv. and Sewer Comn. for constructing sewers in Mill Creek Joint Dist. Sewer, 1st Sect.; also until Aug. 7 for 2d Sect. of said sewer.

Siloam Springs, Ark.—An improvement district has been organized and a petition circulated, calling for bonds to construct a sewer system to cost about $50,000. Albert C. Moore, Engr., Bartlett Bldg., Joplin, Mo.

Austin, Tex.—Hering & Gregory, New York, are consulting engineers for sewage disposal plant and garbage incinerator.

Dallas, Tex.—Plats and profiles of survey for pumping station at foot of Cadiz St. for sewerage system completed.

Three lowest bids opened July 13 by City Comrs. on construction of a 12, 15 and 18-in. sanitary sewer from a point east of Fair Grounds to Ross Ave.: C. W. Olcott, $17,213; Dallas Lime & Gravel Co., $17,507; F. H. Long, $19,522.

★**San Antonio, Tex.**—Contracts for constructing storm and sanitary sewers (bids opened July 6) awarded as follows: To Wm. G. Schuwirth Co., 4 contracts totaling $237,050; one contract each to Bailey & Reeder Co., Mobile, Ala., $16,050; and Eugene Campbell, Waco, $17,700.

★**Seattle, Wash.**—Contract awarded July 17 by the Bd. Pub. Wks. to V. Ramaglia for constructing sewers on E. 40th and other streets, at $12,489.

South Bend, Wash.—City Engineer estimates cost of sewers for Blake & Riverview additions at $28,000.

Astoria, Ore.—City contemplates constructing $100,000 sewer system to accommodate downtown districts.

★**Los Angeles, Cal.**—Contract for constructing Alameda St. storm sewer and paving thoroughfare awarded to T. J. Shea at $187,665.

★**Vallejo, Cal.**—Contract for extending sewers back to bulkhead No. 2 awarded to Michael Murphy at $37,000.

Kellogg, Idaho—City council considering extension of sewer to Pressley Dist.

Hamilton, Ont.—City Engineer Macallum has completed plans for east end sewage disposal works and estimated cost of alterations to present plant at $82,000 and $59,000 for addition of new tanks, etc.

★**Whitby, Ont.**—Contract for sewerage system awarded as follows: System to R. B. Stewart, of Whitby, at $54,650; disposal work, F. F. Fry, Toronto, $24,943; furnishing pipe, Ontario Sewer Pipe Co., at $13,000, and reinforced concrete pipe for trunk sewers to Blair C. Woodstock, at $12,570.

The Pas, Man.—Bids desired until Aug. 11 by Secretary-Treasurer for furnishing and delivering 2 sewage lift pumps and house meters; also constructing sewage lift chamber and oil tank chamber. Murphy & Underwood, Engrs., Saskatoon, Sask.

Nanaimo, B. C.—Citizens voted $30,000 bonds for extensions to sewer system.

BRIDGES.

Items Arranged Geographically

Boston, Mass.—Lowest bid opened by Metropolitan Park Comn. for foundation for burned portion Wellington Bridge submitted by Rendle & Stoddard, East Boston, at $32,567.

Perth Amboy, N. J.—Four lowest bids opened July 20 by County Bd. Chosen Freeholders, New Brunswick, for constructing steel and concrete bridge across cut or crossing of Lehigh Valley R. R. at Convery Pl., Perth Amboy: H. W. Schrimpf, Perth Amboy, $33,679; J. C. Fowler, Perth Amboy, $33,847; Meaghn & Smith, Perth Amboy, $34,000; Stillman, Delehanty Ferries Co., Jersey City, $35,-600.

★**Passaic, N. J.**—Contract has been awarded to Richard Lamb, 136 Liberty St., New York, for repairing Union Ave. Bridge, Passaic. This work consists of replacing wood block, creosoted lumber and timber and laying creosoted wood blocks on the surface.

Allentown, Pa.—Two lowest bids opened by County Comrs. for constructing concrete bridge at Guthsville submitted by W. A. Stine & Co., at $10,419, and Geo. H. Hardner, at $10,380.

Harrisburg, Pa.—State Water Supply Comn. at Harrisburg approved applications for constructing following bridges: Over Leasure Run at New Bethlehem, Clarion County, over Pine Creek, East Titusville, over McGranahan Run near Harmonsburg, over Woodcock Creek near Dewey Mill in Crawford County.

★**Nanticoke, Pa.**—Following are bids received by County Controller at Wilkes-Barre for constructing bridge over north branch Susquehanna River between Nanticoke and West Nanticoke, to consist of 23 spans, total length, 1012 ft., 22 ft. roadway, 6 ft. sidewalk. (David A. Keefe, Engr., Athens): Engineer's estimate, $281,692; Dravo Contr. Co., Pittsburgh, $278,500 (awarded contract); Jas. McLinden & Co., Anglesea, N. J., $281,835; P. J. Carlin Constr. Co., New York, N. Y., $281,500; D. M. Rooser Co., Kingston, Pa., $293,500; G. H. Reimard, Bloomsburg, $289,500; Penn Bridge Co., Beaver Falls, $288,300; Lathrop, Shea & Henwood, Scranton, $291,400; Whittaker & Diehl, Harrisburg, $283,847.

Unit prices of (a) Engineer's estimate; (b) Dravo Contr. Co., Pittsburgh, Pa. (successful bidder).

	(a)	*(b)
Rock excav. per cu. yd.	$2.00	$4.00
Wet excav. per cu. yd.	1.80	2.50
Dry excav. per cu. yd.	.75	1.00
Creosoted pile per lin ft.	.70	.60
Hardwood piles per lin. ft.	.40	.40
Concrete piles per lin. ft.	1.00	1.45
Pedestal piles per lin. ft.	1.25	1.45
Simplex piles per lin. ft.	1.25	1.35
Concrete Class A 1:2:4.	11.00	11.00
Concrete Class B 1:2½:5.	8.50	6.50
Concrete Class C 1:3:6.	7.00	6.00
Structural steel work, per lb.	.03¾	.036
Reinforcing rods, per lb.	.03	.02¾
Concrete sidewalk, per sq. ft	.20	.15
Creosoted Lug block, per sq. yd.	2.50	2.50
Other creosoted block, per sq. yd.	2.50	2.35
Vitr. block, per sq. yd.	2.40	3.00
Belgian block, per sq. yd.	2.80	3.25
Wainwright steel curb, per ft.	.20	.25

Pittsburgh, Pa.—J. G. Chalfant, County Engr., has been directed to prepare plans for constructing bridge over Ohio River between Northside and McKees Rocks; cost about $1,750,000.

Danville, Va.—See "Railroads."

Lynchburg, Va.—To eliminate grade crossings in vicinity of Union Passenger Station here, Southern, Norfolk and Western and Chesapeake and Ohio Railways have agreed to construct a reinforced bridge over tracks of the 3 systems and James River at foot of 7th St., the cost to railways being approximately $300,000. The lines agree to build entire structure provided city contributes $50,-000 and county of Amherst provides an approach on Amherst side of river. Coupled with bridge plan is one for development of Murkland Heights, in Amherst County.

Mt. Holly, N. C.—Bids desired by Joint Boards Comrs., Gaston and Mecklenburg Counties and opened at site of bridge after Noon of July 30, for constructing bridge over Catawba River at Mt. Holly, to consist of 2 spans 200 ft. long, with steel approach at each end, 16 ft. roadway; substructure concrete and cylinder piers. Appropriation $20,000. O. G. Falk, Chmn. County Comrs., Gastonia.

Jacksonville, Fla.—Bids desired until Aug. 10 by Com. on Pub. Wks., Bd. Bond Trus., for constructing reinforced concrete bridge on Main St. over Hogans Creek.

Houston, Miss.—Bids desired Aug. 3 by Co. Bd. Superv., for $100,000 bridge bonds.

Louisville, Ky.—Bids opened July 15 by Maj. J. C. Oakes, Corps Engrs., U. S. A., for furnishing and constructing a direct lift bridge over the Louisville and Portland Canal, at 18th St.: (a) Penn Bridge Co., Beaver Falls, Pa., $39,427; (b) Grainger & Co., Inc., Louisville, Ky., $39,575; American Bridge Co., Cincinnati, O., $50,-990; A. W. Kurz, New York, N. Y., $43,-663; Independent Bridge Co., Pittsburgh, Pa., $41,815; Strobel Steel Constr. Co., Chicago, Ill., $49,770.

Unit prices of 2 lowest bidders, (a) and (b):

	(a)	(b)
500,000 lbs. structural steel	$0.048	$0.0488
25,000 lbs. cast steel and cast iron	.13	.20
11,000 lbs. forged steel, shafting and bolts	.09	.10
1,000 lbs. phosphor bronze	.60	.65
550 lbs. babbitt	.60	.60
750 lin. ft. fence railing (on floor of bridge)	1.25	1.50
Wooden floor, complete, including plank, flooring, nailing strips, guards, risers, nails, lag screws, etc. (lump sum)	1,400.00	1,550.00
80 cu. yds. concrete	14.00	6.50
Power equipment, complete, which shall comprise all the equipment mentioned under Part VI, power equipment (lump sum)	4,000.00	2,250.00
Operator's house, complete, except the 10-in. 15-lb. channels supporting the house (lump sum)	500.00	400.00
Accessories, which shall comprise the equipment described under Part IX, Accessories (lump sum)	2,300.00	2,250.00

★**Louisville, Ky.**—Contract for constructing bridge over Beargrass Creek at Ellison Ave. awarded to Geo. M. Eddy, at $13,256.

★**Akron, O.**—Contract for Pleasant Valley Bridge (bids opened July 10) awarded as follows: Superstructure, to Bellefontaine Bridge & Steel Co., Bellefontaine, and for substructure to C. A. White & Co., Conneaut.

Ashland, O.—Bids desired until Aug. 3 by County Comrs. for constructing 3 bridges as follows: Geo. Cornell Bridge, Lake Township, 60 ft. solid riveted Warren truss, 14 ft. roadway, wood block or concrete floor; Geo. W. Chandler Bridge, Lake Township, 60 ft. solid riveted Warren truss, 14 ft. roadway, wood block or concrete floor; Saml. Ohle Bridge, Milton Township, 28 ft. concrete span, 20 ft. roadway.

Cleveland, O.—Bids reported desired until July 31 by Commissioner Purchases and Supplies, for reinforced concrete bridge and retaining walls in Rockefeller Park.

***Miamisburg, O.**—Following bids opened by County Comrs. July 11 for constructing substructure Linden Ave. Bridge: A. J. Lowger & Co., Indianapolis, Ind., $49,-000; Herzlip-Seaton, Cleveland, $36,000, awarded contract.

★**New Philadelphia, O.**—Contract for superstructure of steel bridge over Sugar Creek (bids opened July 13) awarded to Massillon Bridge Co., Massillon, at $3,140; substructure to MacWardell Strasberg, at $3 per cu. yd. for wet excav., and $7.50 per cu. yd. for concrete; piling 50 cts. per lin. ft.; embankment, 60 cts per cu. yd.

Bids desired until Aug. 17 by County Comrs. for constructing new steel superstructure, 77 ft. long, 15 ft. roadway, and repair of abutments of bridge across Sugar Creek, Sugar Creek Township.

Youngstown, O.—Bids desired by F. M. Lillie, City Engr., until Aug. 7 for constructing concrete bridge across Andrews Hollow at 5th Ave.; it will be 500 ft. long, 75 ft. wide and contain 2200 cu. yds. concrete.

Lansing, Mich.—Bids desired until Aug. 1 by State Highway Comr., Lansing, for constructing 40-ft. I-beam bridge, 20-ft. roadway, Sherman Township, Newaygo Co. Herman Sall, Highway Comr., Wooster. Also 70-ft. thru girder, 18-ft. roadway, St. Joseph Township, Berrien Co. W. J. Cleray, Co. Engr., St. Joseph.

Hillsboro, Ill.—Bids desired until July 27 at Council Room, for constructing Tremont St. Bridge, reinforced concrete, 40 ft. span, 34½ ft. roadway. Engineer's estimate $3,300. A. M. Hampton, City Clk.

St. Joseph, Ill.—Bids desired until July 28 at office of County Supt. of Highways, Urbana, for constructing an extension to present highway bridge over Salt Fork, 1½ miles from St. Joseph, to consist of 60 ft. reinforced-concrete girder, one pier and one abutment and raising present steel structure, and building stone abutment about 3 ft.

Watseka, Ill.—Bids desired until July 30 by County Supt. Highways, Watseka, for constructing Ambia Bridge, reinforced concrete structure, span 60 ft., 18 ft. roadway. Engineer's estimate, $3,180.

★**Lewiston, Mont.**—Contract for constructing steel bridge in Lewiston awarded to Security Bridge Co., Minneapolis, Minn., at about $8,000.

Items marked thus give the names of parties awarded contracts.

Albany, N. Y.—Bids were opened July 21 by State Supt. Pub. Wks. for Contract No. 109, Erie Canal, Sect. 2, constructing the substructure, superstructure and approaches of Crescent Highway Bridge over Mohawk River at about Barge Canal center line Station 386: (a) Engineer's estimate, $190,244; (b) Larkin & Sangster, Seneca Falls, $163,917; (c) Lathrop, Shea & Henwood Co., Buffalo, $174,393; (d) Scott Bros., Rome, $174,576; M. Fitzgerald, Hoosick Falls, $205,026; Frank L. Cohen, Buffalo, $183,694; Holler & Shepard, Rochester, $180,618; Parker & Beebe, Waterford, $195,150; Penn Bridge Co., Beaver Falls, Pa., $203,813; John Monks & Sons, New York, $201,548; John M. Holler, Albany, $183,738; Lupfer & Remick, Buffalo, $174,974; Oswego Constr. Co., Fulton, $188,139; Walsh Constr. Co., Davenport, Ia., $206,407.

Unit prices of a, b, c and d:

	(a)	(b)	(c)	(d)
13,550 cu. yds. excavation	$0.65	$0.55	$0.65	$0.75
430 cu. yds. lining	1.50	1.50	1.50	1.50
4,300 cu. yds. 2d-class concrete	8.00	7.10	9.60	9.00
835 cu. yds. 1st-class reinforced concrete	12.00	12.00	10.00	12.00
890 cu. yds. wash wall	2.00	2.00	2.00	2.25
0.9 M ft. sawed lumber	60.00	60.00	70.00	60.00
2,697,000 lbs. structural steel	.038	.038	.038	.0375
162,000 lbs. metal reinforcement	.03	.03	.025	.03
930 lin. ft. wooden fence	.25	.25	.25	.30
1,135 lin. ft. lattice railing	1.75	2.10	1.75	1.80
2,275 sq. yds. bituminous surfacing	.30	.30	.30	.30
6 signal lamps (oil), ea	15.00	15.00	15.00	15.00
Cofferdams, pump., bail. and drain., "A" (lump sum)	3,000.00	2,500.00	3,600.00	3,600.00
Cofferdams, pump., bail. and drain., "B" (lump sum)	21,000.00	1.00	100.00	100.00
Maintain. navigation (lump sum)	100.00	100.00	120.00	100.00
Moving existing buildings (lump sum)	100.00	100.00	120.00	100.00

Albany, N. Y.—Bids were opened July 21 by State Supt. Pub. Wks. for Contract No. 118, Erie Canal, Sect. 3, a city highway bridge over Mohawk River at Amsterdam: (a) Engineer's estimate, $153,093; (b) Lathrop, Shea & Henwood Co., Buffalo, $147,408; (c) Frank L. Cohen, 49 Niagara St., Buffalo, $152,548; (d) John M. Holler, Albany, $157,604; Penn Bridge Co., Beaver Falls, Pa., $164,568; Larkin & Sangster, Seneca Falls, $163,463; Eastover Constr. Co., Inc., Gloversville, $192,635; Lupfer & Remick, Buffalo, $158,093; Walsh Constr. Co., Davenport, Ia., $159,462.

Unit prices of a, b, c and d:

	(a)	(b)	(c)	(d)
Cofferdams, pumping, bailing and draining (lump sum)	$16,000.00	$19,000.00	$17,828.00	$16,000.00
5,620 cu. yds. excavation	1.25	.75	1.25	1.25
12,600 lin. ft. foundation piles	.30	.25	.30	.30
100 lin. ft. wrought-iron pipe railing	1.50	1.50	1.50	1.50
4,700 cu. yds. second-class concrete	7.50	7.00	7.50	7.50
715 cu. yds. reinforced concrete	12.00	10.00	12.00	11.00
138,000 lbs. metal reinforcement	.03	.025	.03	.03
280 cu. yds. riprap	2.50	2.50	2.50	2.50
1,667,000 lbs. structural steel	.039	.039	.038	.042
1,860 sq. ft. Portland cement sidewalks	.25	.25	.20	.25
160 lin. ft. stone curbs	1.00	1.00	1.00	1.00
250 sq. yds. brick pavement	2.50	2.50	2.00	2.50
900 lin. ft. lattice railing	1.75	1.75	1.75	2.00
1,550 sq. yds. asphalt block pavement	2.00	1.50	2.00	2.00
Maintain. highway traffic (lump sum)	4,000.00	4,000.00	4,000.00	4,000.00
Remove boat house, etc. (lump sum)	500.00	600.00	500.00	500.00
Remove existing bridge (lump sum)	1,000.00	1,000.00	1,000.00	1,000.00
Maintain. navigation (lump sum)	500.00	600.00	100.00	500.00
6 oil signal lamps, ea	15.00	15.00	15.00	15.00
880 lin. ft. laying railroad track	.50	.50	.40	.50

Wilkes-Barre, Pa.—Bids opened July 7 at City Clerk's office for constructing reinforced concrete viaduct on Butler St., from plans of Wm. M. Torrance, 171 Madison Ave., New York: (a) C. M. Neeld Contr. Co., Pittsburgh, $82,788; (b) Penn Bridge Co., Beaver Falls, $87,479; (c) McHarg Barton Co., New York, $87,887; (d) Williams & Richardson, Scranton, $88,524; Bolton G. Coons Contr. Co., Luzerne Station, Wilkes-Barre, $100,423; Whittaker & Diehl, Harrisburg, $128,417; D. M. Rosser, Kingston Station, Wilkes-Barre, $90,687; J. W. Heller, Newark, N. J., $96,238; Whiting Turner Co., Baltimore, Md., $128,333; Barzaghi Vought Co. New York, $96,115; Mason Hilton Co., New York, $91,051.

Unit prices of 4 lowest bidders, a, b, c and d:

	(a)	(b)	(c)	(d)
1,400 cu. yds. excav.	$1.10	$0.50	$0.50	$0.75
270 cu. yds. concrete, "A"	4.93	6.50	5.00	6.80
1,460 cu. yds. concrete, "B"	7.56	8.00	8.00	8.80
1,950 cu. yds. concrete, "C"	14.47	12.50	16.00	16.00
2,400 lin. ft. railings	1.40	2.50	2.00	1.95
14 lamp posts, A	16.00	20.00	15.00	13.00
6 lamp posts, B	21.00	15.00	20.00	13.00
13,200 sq. ft. granite finish	.048	.035	.05	.04
3,720 sq. yds. asphalt pavement	1.65	2.00	1.25	1.60
Hillside block pavement	1.95	..	1.50	1.60
2,400 lin. ft. conduits, 2-in	.08	.06	.10	.38
200 lin. ft. conduits, 1-in	.08	.05	.10	.22
24 outlet boxes	1.50	3.00	2.00	2.25
538,000 lbs. structural steel	.0414	.047	.045	.039
116,500 lbs. reinforced steel bars	.0238	.03	.0325	.024
6,500 lbs. cast-iron drain	.035	.03	.05	.04
5,500 cu. yds. filling	.63	.60	.50	.75
4 expansion joints	35.00	30.00	75.00	40.00
1 stairway	600.00	800.00	200.00	200.00
2,550 lin. ft. protected curb	.18	.50	.25	.25

Independence, Mo.—Contract for constructing 2 concrete approaches to Blue Rdige Boule. over tracks at Athol station awarded by County Court at Independence to A. D. Ludlow, at $10,078.

★**Batesville, Ark.**—Contract for constructing concrete bridge (bids opened July 10) awarded to Hanford & Fugett, Batesville, at $3,489; Memphis Bridge Co. secured contract for 2 steel bridges. J. W. Scott, Co. Judge.

Little Rock, Ark.—Chicago, Rock Island & Pacific R.R. Co. (C. A. Morse, Ch. Engr., Chicago, Ill.) decided to construct concrete viaduct over tracks at E. 6th St.; cost $12,000.

Dallas, Tex.—Bids reported desired until Aug. 1 by J. F. Witt, Co. Engr., for constructing 3 bridges, one across Trinity River, one across Elm Fork and one across West Fork.

Texarkana, Tex. — Bowie and Cass Counties voted to construct bridge over Sulphur River at Pace Ferry, near Texarkana; cost $5,000. Linden, county seat Cass County.

Seattle, Wash.—Bids desired until Aug. 31 by County Comrs., for constructing Franklin Bridge.

Contract about to be let by County Comrs. for constructing foundations for Montlake Boule. Bridge substructure; cost $30,000.

★**Tacoma, Wash.**—Contract for erecting bridge here awarded as follows: Steel superstructure to McCreary & Willard, Spokane, and substructure to Widell Co., Mankato, Minn. Total cost $250,000.

★**Carlton, Ore.**—Contract for constructing steel bridge over Yamhill River awarded to Coast Bridge Co., Portland, at $4,499. Bids opened by County Court at McMinnville June 29.

Portland, Ore.—Bureau of Highways & Bridges has had plans prepared for concrete retaining walls and bridges to be constructed on Market St. Drive and Georgian Pl.

Bonds of $1,250,000 for building of Interstate Highway Bridge over Columbia River, between Portland and Vancouver, Wash., were declared valid by Supreme Court of Oregon. The plans for bridge are ready for adoption by Comn. Bridge to cost about $1,750,000.

Yuba City, Cal.—All bids opened for constructing 1900-ft. bridge over Butte Slough, in Sutter County, rejected, being in excess of estimated cost, $60,000. E. L. Cope, City Engr.

Ottawa, Ont.—Bids desired until July 28 by Secretary Bd. Control, for steel work, Billings Bridge; also separately for constructing 4 piers and 2 abutments of plain concrete. A. Currie, City Engr.

PAVING AND ROADS.

Items Arranged Geographically

Concord, N. H.—Bids desired until Aug. 3 by State Highway Dept., Concord (S. Percy Hooker, Supt. Highways), for grading and surfacing with gravel Derry Rd., Town of Chester, and Concord Rd., Town of Loudon.

★**Boston, Mass.**—Contracts for paving with bituminous macadam roadway of St. Rose St. and Dennis Terrace, West Roxbury, awarded to John F. Lynch at $3,237 and $3,169, respectively.

★Following are three lowest bids received by Rapid Transit Comn., Boston, July 16, for laying about 4000 sq. yd. concrete platform finish in Subway, Massachusetts and Copley Stations of Boylston Subway: Hugh Nawn Contr. Co., $6,957 (awarded contract); Galassi Mosaic & Tile Co., $7,957; W. A. Murtfeldt Co., $8,179.

★Contract awarded July 10 for furnishing 50,000 paving block to Lombard Granite Co., $2,900. F. P. Rock, Asst. Pur. Agent.

Bids desired until July 28 by Massachusetts State Highway Comn., Boston, for surfacing a section of State highway, about 11,000 ft. in length in towns of Stoneham and Reading.

★**Wellesley, Mass.**—Contract for repairing tar concrete sidewalks for year 1914 awarded to Geo. H. Lowe, and for granolithic sidewalks to Wm. J. McNair & Co.

★**Connecticut.**—Contracts for state highway work were awarded July 21 by Chas. J. Bennett, State Highway Comr., Hartford, as follows:

★Westport.—About 4050 lin. ft. to Connecticut Hassam Paving Co., New Haven, at $8,000.

★Norwalk.—About 7515 lin. ft. to Connecticut Hassam Paving Co., New Haven, at $22,000.

★**Albany, N. Y.**—Bd. Contract & Supply has awarded contract for paving with sheet asphalt a portion of State St. to John W. Davitt, Albany, at $29,977; improvement of Glenwood, Oakwood, Maplewood and Parkwood Sts. to Robt. I. Gleason at $43,973; First Ave., B. F. Mulderry, 64 First St., $21,966; Liebel St., also Lark St., Kenny & Dumary, at $4,344 and $7,239, respectively.

Batavia, N. Y.—Bids desired until July 27 by Village Clerk for furnishing material and constructing 5300 sq. yds. brick pavement on Walnut St.

Brooklyn, N. Y.—Bids desired until July 29 by Boro. President, for paving portions of Fulton and 57th Sts., and Nassau Ave., and laying sidewalks on Ave. M, Roberge Pl. and 70th St., requiring 33,965 sq. yds. asphalt pavt., 2916 sq. yds. granite pavt., 6710 sq. ft., cement sidewalk, etc.

★**Buffalo, N. Y.**—Contract for paving with brick Dewey Ave. awarded by Comr. Pub. Wks. to Constantine Constr. Co. at $15,000.

Bids desired until Aug. 1 by Dept. Pub. Wks. for paving portions of Milnor, Bogardus, Potter and several other streets.

★Contracts awarded by Common Council as follows: With brick Downing St. to Erie Contr. Co., Morgan Bldg., at $28,000; with asphalt Elmwood Ave. to Henry P. Burgard Co., 275 Lathrop St., at $18,540.

Common Council voted to pave Lafayette Ave. and Huron St.

Endicott, N. Y.—Citizens voted to pave Washington Ave.

New York, N. Y.—Bids opened July 16 by President Bronx Boro. for paving as follows:

Regulating, setting curb, flag, building approaches, etc., in Davidson Ave., from Evelyn Pl. to W. 180th St. (lowest bid, Sparari Constr. Co.), as follows: 5000 cu. yds. earth excav., 50 cts.; 10,800 cu. yds. rock excav., $1.60; 2300 lin. ft. new curb, 75 cts.; 80 lin. ft. old curb, 25 cts.; 800 sq. ft. new bluestone flag, 25 cts.; 200 sq. ft. old flag, 10 cts.; 10,650 sq. ft. one course concrete sidewalk, 16 cts.; 225 sq. ft. new bridgestone, 50 cts.; 110 cu. yds. dry rubble masonry, $1; 100 lin. ft. guard rail, 2 cts.; total, $23,673. Other bids: Burnside Contr. Co., $27,279; S. Amanna and R. L. Sullivan, $27,442; F. N. Palladino, $25,663; M. DiMinna Constr. Co., $24,700.

Regulating, grading, setting curb, flagging sidewalks, etc., in St. Raymond Ave., from Hoguet Ave. to Williamsbridge Rd. (lowest bid, Burnside Contr. Co.), as follows: 2250 cu. yds. earth excav., 60 cts.; 50 cu. yds. rock excav., $2; 18,500 cu. yds. fill, 35 cts.; 7200 lin. ft. new curb, 75 cts.; 35,200 sq. ft. concrete sidewalk, 15 cts.; 3800 sq. ft. new bridgestone, 40 cts.; 300 cu. yds. dry rubble masonry, $1.50; 13 cu. yds. rubble masonry in mortar, $3; 5 cu. yds. Class A concrete, $6; 60 lin. ft. vitr. pipe 12-in., 60 cts.; 30 lin. ft. 24-in., $2; 48 lin. ft. 30-in., $3.50; total, $20,966. Next 3 lowest bids: W. H. Callahan Contr. Co., $21,233; C. E. Engle, $22,645; Bonavia Contr. & Constr. Co., $23,163.

Regulating, grading, setting curb, etc., in Cruger Ave., from Baker to Morris Park Ave.: Lowest bid, Burnside Contr. Co., $4,875.

New York, N. Y.—Bids desired until July 30 by Park Bd. for paving and repaving with rock asphalt mastic where directed. walks of Central and other parks Boro. Manhattan. Security $2,400. curbing portions of nine streets.

Rome, N. Y.—Bids reported desired until July 29 by Bd. Pub. Wks. for paving Spring St., at an estimated cost of $5,780.

Schenectady, N. Y.—Bids desired until Aug. 5 by Bd. Contract and Supply, for paving Foster, Oakwood, 3d, 10th and other streets, advertised in Engineering Record.

★**East Orange, N. J.**—Contract for paving Long and Franklin Sts. (bids opened June 22) awarded to Danl. J. O'Rourke for 6200 sq. yd. Telford and 1570 sq. yd. Belgian block. Lincoln E. Rowley, City Clk.

Newtown, N. J.—Citizens voted $25,0 bonds for road improvements in Warrin ton Township.

Rahway, N. J.—Bids desired until Au 4 by Common Council for paving Irw St. and Milton Ave., advertisement Engineering Record.

★**Saddle River, N. J.**—Contract f 1800 sq. yd. 4-in. macadam on East Sad dle River Road and 2084 sq. yd. on Map Ave. awarded to Jas. R. Donnelly, Ho hokus, at $8,444. Totals of other bi received: E. B. Van Horn, Ridgewoo $8,511; Henry J. Knack, Allendale, $9 060; John T. Harrop Co., Garfield, $9,28 F. H. Storms Co., Saddle River, $9,64 Taveniere, Johnson, & Wm. C. Hal Tenafly, $9,915; J. S. Sowerbutt, Pate son, $9,954; A. W. Gill, Hackensack, $10, 020; H. G. Hering, Jr., & Co., Inc., Hills dale, $10,177. Wm. S. Logan, Engr., Clinton St., Newark.

★**Westfield, N. J.**—Contracts awarde by Town Council for paving as follow North St., Webster Pl., Lincoln an Standmore Pl. with macadam to Weldo Contr. Co., and Lenox Ave, with mac adam to Chas. Lentz.

Indiana, Pa.—Bids desired until Aug. by County Comrs., for paving floor Shelocta Bridge with paving blocks, bric paving will be 94 ft. long x 13 ft. 4 i wide.

Pennsylvania.—Bids were opened a follows by State Highway Comr. E. M Bigelow, Harrisburg, July 21 on contract for construction of State-aid Highway aggregating nearly 17 miles:

★Bucks County, Bristol Township awarded to J. F. Shanley Co., Philadel phia, at $16,526, on Amiesite. Next 2 low est bids on Amiesite, Manwaring Cummins, Philadelphia, $17,553; Fran McInerney, Easton, $17,753.

★Bucks County, West Rockhill Town ship and Telford Boro., awarded to Fran McInerney, Easton, at $34,808, on Amie site. Next 2 lowest bids on Amiesite W. C. Evans, Ambler, $39,121; Chas. T Eastburn & Co., Yardley, $39,159.

★Tioga County, Blossburg Boro awarded to Empire Contractors Materia & Equipment Co., Newark, N. J., a $60,314 for 2 miles brick block paving Next 2 lowest bids: Simpson, Mitchel Crosby Co., Punxsutawney, $63,754 an McNerney Constr. Co., Canton, $64,172.

Greene County, Franklin Township (award held over), lowest bid, John Dan drea & Co., Patton, $60,828, for 15,000 f brick highway. Next 2 lowest bids: Be Bockel Co., Inc., Altoona, $62,596; Fre Robinson, Waynesburg, $64,089.

★Venango County, Jackson Township awarded to Northwestern Constr. Co Franklin, at $12,991. Other bids: G. W Ensign, Inc., Harrisburg, $13,823; Simp son & Metz, Erie, $12,365.

★Elk County, Ridgway Boro., awarde to B. H. Coryell, Williamsport, at $27,82 for brick block paving. Next 2 lowes bids: J. D. Hurley, Inc., Fredonia, N. Y $27,902; Simpson & Metz, Erie, $28,598.

★Westmoreland County, Allegheny Township, awarded to Bell Bockel Co. Inc., Altoona, at $52,544 for water boun macadam. Next 2 lowest bids: M. Ben nett & Sons, Indiana, Pa., $54,457; W. C Evans, Ambler, $59,240.

★Somerset County, Summit Township awarded to W. C. Evans, Ambler, at $19, 507 for 1 mile asphaltic bituminous mac adam, penetration method. Next 2 low est bids: Hobletzell & Price, Meyersdale $20,865; J. C. McSpadden, Rockwood, $24, 199.

Somerset County, Milford Township (award held over). Lowest bids received Water bound macadam, Somerset Constr Co., Somerset, $15,362; asphaltic bitu minous macadam, W. C. Evans, Ambler $17,454.

Washington, Pa.—Bids desired unti July 29 by County Comrs. for construct ing sections of county roads with neces sary culverts as follows: Taylors Run Rd 2 miles; Coal Centre Rd., 2850 ft.; Avella Crosscreek Rd., 1½ miles; Claysville Burnsville Extension, ¾ mile; Claysville Bethany Extension, ½ mile; McMurra Rd., 1 mile; Westland Extension, ¾ mile Chaney & Armstrong, County Engrs.

★The following resurfacing contract were awarded by this county July 1 Dry Run Road, 2 miles, to Collins-Gor don Contr. Co., Pittsburgh, 12 x 12 con crete curb, brick surface, estimated cost $28,225. McClanes Bridge-Meadow Land Road, 1 mile, Wm. Pickett & Co., Wash ington, concrete, estimated cost, $9,47 Taylorstown Road, 4800 ft., to Collins Gordon Contr. Co., Pittsburgh, Kentuck Rock Asphalt, estimated cost, $5,982.

Baltimore, Md.—Bids will be receive by State Roads Comn., Baltimore, unt Aug. 4, for constructing roads as follows

Allegheny Co., Cumberland to Nave Farm Rd., 1.74 miles, resurfacing.

Baltimore City, Cathedral and Libert Sts., .54 mile, sheet asphalt and granit block.

Dorchester Co., Cambridge to Churc Creek Rd., 5.85 miles, macadam or con crete.

Frederick Co., through Middletown, 1.3 miles, macadam or concrete.

Prince George's Co., Meadows to Cam Springs, 3.03 miles, macadam or concret or gravel.

St. Mary's Co., St. Mary's City to Ridg 6.74 miles, and Leonardtown to Grea Mills, 10 miles, gravel surfacing.

Somerset Co., Carroll's Corners t Marion, 5.32 miles, macadam or concrete

Washington Co., Livking Creek to Mill

★Items marked thus give the names of parties awarded contracts.

stone, 4.1 miles and Millstone to Hancock, 1.5 miles, macadam or concrete.

★Contract for paving with asphalt Eutaw St. awarded by Bd. Awards to Union Paving Co., at $44,698.

Baltimore, Md.—Bids reported desired until July 29 by Bd. Awards for concrete bituminen walks, gutters, storm water drains, and drain inlets at Patterson Park Extension.

★**Easton, Md.**—Contract awarded July 6 by Street Improv. Comn. to McGuire Constr. Co., Norfolk, Va., for grading and paving certain streets, about 20,000 sq. yds., at $1.39 per sq. yd., for asphaltic concrete. E. G. Kastenhuber, Jr., Ch. Engr., Easton.

Bloomington, Del.—Bids reported desired until July 28 by the County Highway Comr., for 2 macadam highway roads, aggregating 4.7 miles.

Charles City, Va.—Bids desired until July 29 at County Clerk's office, Charles City, for constructing 2 miles gravel road between Holdcroft and Walker's Store. G. P. Coleman, State Highway Comr., Richmond.

Princeton, W. Va.—Bids desired until July 30 by Clerk County Court for furnishing material, grading, masonry (except substructure of steel bridges) and macadam, complete, on following roads: Virginia-West Virginia State Line near Pocahontas to Coopers, about 2¼ miles; Bramwell to Rock, about 8 miles; Bramwell to Bluefield, about 8 miles; Princeton to Athens, about 6½ miles; Carr Schoolhouse to mouth of Sand Lick, about 7 miles. W. I. Lee, Ch. Engr., Princeton.

Graham, N. C.—Bids desired until July 28 by Wm. I. Ward, Chmn. Street Comn., for grading, paving and otherwise improving streets as far as may be done with proceeds of recent bond issue of $50,000. J. N. Ambler, Engr, Winston-Salem.

Rich Square, N. C.—Citizens voted $20,000 bonds for road improvements.

Greenville, S. C.—City Council contemplates spending $50,000 for street improvements.

Miami, Fla.—Bids will be opened Aug. 6 by Mayor and City Council for paving certain streets and necessary drainage for same of vitr. pipe and reinforced concrete sewer. Bids will be received on asphaltic concrete, vitr. brick, bitulithic, creosoted wood block and asphalt block; approximately 95,000 yds. B. H. Klyce, Engr., Miami.

Tampa, Fla.—Bids desired until Aug. 6 by Co. Comrs., Tampa, for furnishing paving brick or blocks, wood or granite curb, on certain roads: Tampa-Plant City Road (readvertisement), 128,000 sq. yd., 154,294 lin. ft., granite curb; Harney-Thonotosassa Road, 46,500 sq. yd., 93,000 lin. ft., wood curb; Riverview Road, 52,800 sq. yd., 105,600 lin. ft., wood curb; Port Tampa Road, 25,000 sq. yd., 30,000 lin. ft., wood curb, advertised in Engineering Record. Jas. Riddle, Engr. of Roads, Tampa.

★Contract awarded to Edwards Constr. Co. for paving with No. 1 brick on Buffalo and Florida Ave. (bids opened July 10), at a total of $35,955, their detail bid being 4800 sq. yds. pavt. on Buffalo Ave. and 14,200 sq. yds. on Florida Ave., as follows: $1.53; 5380 lin. ft. granite curb, 30 cts.; 400 cu. yds. sand, 30 cts.; total, $9,078 and $26,877, respectively. Totals of other bids: R. M. Hudson, $9,318, Buffalo Ave. and $27,587 Florida Ave.; Southern Paving & Contr. Co., $9,443 and $27,957, respectively. Jas. Riddle, Engr. Roads, Tampa.

★**Birmingham, Ala.**—Contracts awarded by Bd. Comrs. for paving as follows: With asphaltic concrete, N. 25th St., to Southern Bitulithic Co., at $15,449, and with asphalt to Southern Asphalt & Constr. Co., at $25,530.

★**Hayneville, Ala.**—Contract awarded July 13 by County Bd. Revenue for graveling Hayneville-Mt. Willning Rd. to Nixon Smith Constr. Co., at $6,542. W. S. Keller, State Highway Engr., Montgomery.

Seale, Ala.—Bids reported desired until Aug. 3 by County Comrs., for improving about 9 miles Eufaula and Columbus Rd., W. S. Keller, State Highway Engr., Montgomery.

Hattiesburg, Miss.—Bids desired until Aug. 4 by Highway Comrs., Court House, Hattiesburg, for grading and bridging and surfacing 5½ miles of streets and roads. F. T. Myers, Engr., Highway Comrs., Hattiesburg.

Laurel, Miss.—Bids desired until Aug. 3 by Chmn. Bd. Comrs. Dist. No. 2, Jones County, Laurel, for constructing 14 miles of streets and roads. F. T. Myers, Engr. Highway Comrs., Laurel.

★**Newton, Miss.**—Contract for improving 22 miles of highway (bids opened July 13) awarded to Healey Constr. Co., Memphis, Tenn., at $41,000.

Vicksburg, Miss.—Bids reported desired until Aug. 3 by Village Clk. for paving with brick, reinforced concrete or asphalt macadam.

★**New Orleans, La.**—Contract for paving with asphalt Louisiana Ave. and Coliseum St. awarded by Council to Barber Asphalt Co., 205 Chartres St., at $2.05 per sq. yd.

Ripley, Tenn.—Citizens voted $15,000 street improvement bonds. L. B. Archer, Clk.

Vanceburg, Ky.—Citizens voted $150,000 bonds for constructing roads.

Belden (R. D. Grafton), O.—Bids desired until July 27 by Trus. Grafton Township, at Belden (M. P. Nesbett, Chmn.), for constructing Grafton South Rd., Sect. 7, 5084 ft.; cost $5,060, and Sect. 8, 5456 ft., cost $5,987.

★**Canfield, O.**—Contract for constructing Columbiana and Canfield Roads with slag macadam 6908 ft. (bids opened July 14) awarded to Youngstown Constr. Co., Youngstown, $5,304. Two other bids: I. W. Coy, Calla, $5,511, and J. D. Paxson, Salem, $5,980. Aaron Wiesner, Township Clk.

Defiance, O.—Bids desired until Aug. 14 by Director Public Service for grading, curbing and paving Ottawa Ave., E. 2d and 5th Sts.

Bids desired until Aug. 3 by County Comrs. for grading, graveling and macadamizing Ayersville Rd. No. 1; paving with waterbound macadam in Richmond and Highland Townships, length 39,268 ft., cost $43,450; also alternative bids for paving with glutrin bound macadam and gravel, cost $52,940.

Lorain, O.—Bids desired until Aug. 4 by Director Pub. Service for grading, draining, curbing and paving with vitr. brick, sheet asphalt or block asphalt Hamilton and Idaho Aves.

Marion, O.—Bids desired until July 30 by Pike Comrs., Robert Free Turnpike, at office of County Comrs., for grading, rolling and macadamizing said turnpike in Clarion Township; cost, $10,094.

Ohio.—Bids desired until Aug. 4 by Jas. R. Marker, State Highway Comr., Columbus, for constructing 89 roads and one bridge in 53 counties; estimated to cost $2,500,135; approximately 193.98 miles. Included in the work is two very large paving jobs, the National Pike, with brick, three-quarters of the entire width of Guernsey County, costing $337,489, and the Newark-New Lexington Road, in Perry County, costing $129,463. The remaining jobs range in prices from $80,000 to $8,000, and the bulk being on an average of about $20,000.

Olmsted Falls, O.—Bids desired until Aug. 3 by Bd. Trus., Olmsted Township, for $8,325 for improving highways. F. R. Gallagher, Township Clk.

Ottawa, O.—Bids desired until Aug. 5 for 5581 sq. yds. paving. Address City Clerk.

★**Portsmouth, O.**—Contracts awarded July 18 for brick paving, tar fill, to S. Monroe & Son Co. as follows: Gallia Pike, 6075 ft. long, $68,385; Lincoln St., 666 ft., $5,573; B'way, 780 ft., $6,366; New Fifth St., 445 ft., $2,677.

Bids for 4 other streets desired about Aug. 10. Address, Geo. S. Wilhelm, City Engr.

★**Toledo, O.**—Contract for paving with macadam Clark Ave. awarded by County Comrs. to J. B. Raymer at $12,000.

Upper Sandusky, O.—Bids desired until July 31 by County Auditor, for grading and stoning Salem Township Water Bound Road Improv. No. 54., 2 miles in length.

Indiana—Bids desired by County Comrs. for constructing roads as follows:

Until July 31:

Noblesville—Roads in Jackson, Wayne and Delaware townships, 7 in all.

Until Aug. 3:

Portland—3 stone roads in Wayne township.

South Bend—3 gravel roads in Madison and Union Townships.

Until Aug. 4:

Washington—Roads in Washington, Bar and Steele townships, 4 in all.

Brazil—Roads in Perry and Harrison townships.

Until Aug. 6:

Crown Point—Gravel roads in Calumet, Winfield, Ross and North townships, 6 in all.

Until Aug. 8:

Valparaiso—Roads in Centre and Portage townships.

★**Indiana.**—Contracts for constructing roads awarded by County Comrs. as follows:

★Putnam County, Russell Township Rd., to Sutherlin & Clodfelter, Russellville, $43,000.

★Davies County, Road in Washington Township to Geo. Riester, Washington, $5,728; road in Veale Township to A. Mussleman, Washington, $10,637.

★Dearborn County, concrete road in Lawrenceburg Township to Trippeer & Son, Peru. at $21,116.

★Knox County, Wm. H. Porter, concrete road to Victor Manning and Hugh O'Donnell at $14,271.

Scottsburg, Ind.—About $25,000 Scott County Highway improvement bonds sold.

★**South Bend, Ind.**—Contract for constructing 13,700 ft. gravel road (bids opened July 13) has been awarded by Co. Comrs. to C. H. Defrees at $17,200.

Winamac, Ind.—The Comrs. of Pulaski County will let contract for construction of .24 miles of macadam road; estimated cost, $12,586; also 2 miles of gravel road; estimated cost, $4,004. C. E. Paul, County Surveyor.

Detroit, Mich.—Bids desired by Dept. Pub. Wks. for paving Roosevelt, Philips, Concord, Ferry, Military, Crawford, Holcomb Aves. and Herbert St.; estimated cost, $126,000.

★**Detroit, Mich.**—Contracts have been awarded by Bd. Pub. Wks. for paving, all on concrete foundation, as follows: McGraw Ave., with cedar block, to J. Porath, at $2.248 per sq. yd., total $11,985; Garfield Ave., with cedar block, F. Porath & Son, $2.568 per sq. yd., total $14,598; Scotten Ave., with reinforced concrete, J. Porath, at $2.352 per sq. yd., total $5,572; for furnishing rock asphalt, to Wadsworth Stone & Paving Co., Pittsburgh, Pa., at $8.41 per ton, f. o. b. Detroit, and for furnishing stone paving blocks, to Wisconsin Granite Co., at $2.05 per sq. yd.

Kalamazoo, Mich.—Bids reported desired until July 28 by City Clk., for supplying 110,000 paving bricks.

Plymouth, Mich.—Bids reported desired until July 28 by R. C. Cassidy, for paving Liberty St. and Penniman Ave.

Sturgis, Mich.—Bids desired until Aug. 3 by City Council for 22,075 sq. yds. brick or asphalt block pavt., 11,300 lin. ft. combined curb and gutter, advertised in Engineering Record.

★**Illinois.**—State Highway Comn. at Springfield awarded contracts for constructing roads as follows:

★Cass County, to Beardstown Concrete Constr. Co., at $4,500.

★Crawford County, to F. W. McElroy, Lockport, N. Y., at $5,600.

★Kane County, to C. W. Jensen & Co., Chicago, Ill., at $29,787.

Illinois.—Bids desired by State Highway Comn., Springfield, for State Aid work in counties as follows—all cement to be furnished by State. (Type of construction, concrete,) A. N. Johnson State Highway Engr.:

Until July 28:

County	Route	Length, ft.	Cost
Lee	5	9,000	$17,045.00
Menard	7	2,400	4,862.00
Cook	19	16,235	35,107.04

Until Aug. 4:

County	Route	Length, ft.	Cost
Carroll	2	7,200	$11,162.00
Moultrie	5	6,300	8,436.90
Macoupin	1	11,200	16,908.30
DuPage	1	10,800	20,995.22

Lyons, Ill.—Bids desired until July 28 by Bd. Local Improv. for improving roadway of Joliet Ave., also roadways of all intersecting streets, courts and alleys by constructing Portland cement concrete curb and gutter and paving with limestone macadam bonded with limestone screenings.

Peoria, Ill.—Bids desired until July 27 by Bd. Local Improv. for paving with brick Russell St., to consist of 9680 sq. yds. brick pavt., on 5-in. concrete foundation; 5590 lin. ft. cement curb, etc.

★**Pontiac, Ill.**—Contract awarded for South Locust St. paving to Lobb & Son, Pontiac, at $17,150.

★**Waukegan, Ill.**—Contract for 10,820 sq. yd. asphalt concrete pavement (bids opened July 13) awarded to Western Improv. Co., Racine, Wis., at $32,584.

Dodgeville, Wis.—Bids reported desired until July 27 by City Clerk for constructing about 30,000 sq. ft. concrete sidewalks.

★**Hurley, Wis.**—Contract for paving with brick Silver St. awarded to Fred Eul, Neenah, at $32,197.

Marinette, Wis.—Bids desired until July 31 by City Clerk for improving Carney Ave. by constructing 2 concrete roadways, 23 ft. wide with a 25-ft. parkway in between said 2 roadways and concrete curb and gutter on either side; also improving Chestnut St. by paving with 9-in. macadam pavt. for a width of 28 ft., having a combination concrete curb and gutter.

New Glarus, Wis.—Bids desired until Aug. 3 by Village Clerk for furnishing and laying 2960 ft. 10 to 5-in. vitr. pipe sewers, etc., and laying 7961 sq. yds. reinforced concrete pavt., 1065 ft. curb and gutter, etc. W. G. Kirchoffer, Engr, Vroman Blk., Madison.

★**Sheboygan, Wis.**—Contract for constructing concrete road between Sheboygan and Sheboygan Falls awarded to J. Rasmussen Sons Co., Oshkosh, at $30,215.

★**Watertown, Wis.**—Contract for paving N. 2d St. with reinforced concrete awarded by Bd. Pub. Wks. July 17 to E. L. Bartlett, Watertown, at $12,757. Arnold Kraeft, City Engr.

Des Moines, Ia.—Contract for paving with asphalt awarded by City Council to Des Moines Asphalt Paving Co., at $1.92 per sq. yd.

Contract for paving with bitulithic Dean Ave. awarded to Jas. Horrabin Co. at $2.90 per sq. yd.

Iowa City, Ia.—Bids reported desired until Aug. 7 by City Clerk, for paving with brick, bitulithic or other material about 22 blocks.

Marshalltown, Ia.—Bids desired until July 27 by City Clerk for paving with concrete portions of W. Church, S. 12th and N. 2d Sts., requiring 8400 sq. yds. pavt. and 7000 lin. ft. curb.

Mason City, Ia.—All bids received July 13 for 10,600 sq. yd. paving have been rejected. Lowest bide received was from Bryant Asphalt Paving Co., Waterloo, at $1.72 per sq. yd. J. W. McEwer, City Clk.

★**Waterloo, Ia.**—Contract for 7750 sq. yd. asphalt paving (bids opened July 13) awarded to Bryant Asphalt Co. R. L. Degon, City Clk.

Duluth, Minn.—Lowest bid opened July 6 for 100,000 sq. yd. pavement on S. 1st Ave. and Sutphin St. submitted by D. H. Clough & Co. as follows: Brick with sandstone curb, $33,363; brick with granite curb, $35,018; creosote block with granite curb, $35,252; sandstone with sandstone curb, $36,459; sandstone with granite curb, $38,113; one-course concrete, $26,770; two-course concrete, $26,573.

★**Hibbing, Minn.**—Contract for constructing 2½ miles Falmi Rd. awarded by Stuntz Township Bd. to J. C. Brown at $11,860.

Bids reported desired until July 28 by Council for 8000 sq. yds. creosoted block, bitulithic sheet asphalt or Donnellite pavt. on 5th Ave. and McKinley St.

★**Virginia, Minn.**—Contract for paving 1st, 4th Sts. and Mesaba Ave. awarded by City Council to Lawrence McCann, Eveleth, at $51,757.

★**Horton, Kan.**—Contract for constructing 14,000 sq. yds. paving awarded July 14 to Kaw Paving Co., Topeka, at following bid: 9500 cu. yds. excav., 35 cts.; 6880 lin. ft. curb and gutter, 60 cts., or 360 lin. ft. curb only, 32 cts.; 530 lin. ft. gutter only, 56 cts.; 700 lin. ft. 3 x 12 oak headers, 20 cts.; 12-in. sewer pipe, 60 cts. per lin. ft.; 15-in. sewer pipe, 72 cts.; 14,650 sq. yds. asphaltic concrete, $1.51; 8 catchbasins, ea., $16; total, $38,763. Totals of other bids—(a) vertical fibre, (b) asphaltic concrete: E. W. Geiger Constr. Co., Leavenworth, Kan., (b) $29,574; A. R. Young Constr. Co., Lawrence, (a) $35,647; Shelby Dounard Constr. Co., Ardmore, Okla., (a) $36,513; Jim Stanton, Leavenworth, (a) $36,513, (b) 29,684; E. D. Tyner Constr. Co., Kansas City, Mo., (b) $30,450; J. R. Ramsey, Lawrence, (b) $30,082; Capital City Vitrified Brick & Paving Co., Topeka, (a) $39,292; G. B. Philipps, Topeka, (a) $39,099; Williston Constr. Co., Chicago, Ill., (a) $38,692, (b) $30,978; Watts & Amerman, Lawrence and Salina, (a) $35,223, (b) $29,413. J. P. Richard, Paving Engr., Box 231.

Aurora, Neb.—Bids desired until July 31 by City Clerk for approximately 15,551 sq. yd. paving. Bids desired for standard brick block, vertical fiber brick and asphaltic concrete.

Omaha, Neb.—Bids reported desired until Aug. 4 by City Clk. for paving and

Sheridan, Wyo.—Bids desired until Aug. 3 by City Clk. for paving and constructing storm sewers in Paving Dist. No. 3, advertised in Engineering Record.

Kansas City, Mo.—Bids desired until July 28 by Bd. Pub. Wks., for paving portions of Independence Rd., Charlotte, Wyandotte and several other streets. Bids desired for vitr. block, asphalt, and concrete pavement.

St. Louis, Mo.—Bids desired until July 31 by Bd. Pub. Improv., for paving with vitr. brick blocks, a number of alleys. Probable cost, $57,708.

Ft. Bliss, Tex.—Bids desired until Aug. 13 by Capt. Wm. E. Hunt, Depot Q. M., El Paso, for constructing roads, walks, gutters and drains at Ft. Bliss, advertised in Engineering Record.

★**San Antonio, Tex.**—Contracts for paving awarded by City Council as follows: Beebe Constr. Co., with brick Lakeview Ave., $39,894; Uvalde Rock Asphalt Co., Cline, with asphalt Romana, W. Laurel and Augusta Sts. and Richmond Ave., $31,643; Western Paving Co., Oklahoma, Okla., with asphaltic concrete Josephine St., and with vibrolithic Pecan St., $13,689; to Texas Granitoid Co. with granitoid McCullough Ave. and Belknap Pl., Martin and Arsenal Sts., $75,036; to Eureka Paving Co., with asphalt concrete Macon and Bowie Sts., $27,777; to Roach-Manigan Paving Co., with creosote pine block Mary's, Taylor, Aransas Sts., Military Plaza, with bituminous macadam Las Moras St., with fiber brick Bonham St. at $37,915.

Wellington, Colo.—Contract is about to be let by County Comrs. at Ft. Collins for constructing road from Wellington to State line; cost $8,000.

★**Burlington, Wash.**—Contract for paving with concrete 9 blocks on Anacortes and Orange Sts. awarded to Washington Paving Co., Tacoma.

Port Angeles, Wash.—Bids desired until Aug. 4 by City Clerk for improving Lincoln St. by grading and pile trestle, cost about $22,000. Chas. J. Filian, Engr., Port Angeles.

Seattle, Wash.—Lowest bid opened by Bd. Pub. Wks. for constructing concrete walks on 1st Ave. South was submitted by Washington Constr. Co., at $8,222.

City Engineer estimates cost of paving Dearborn St. at $30,000.

★Contracts for constructing C. L. Morris Rd. and Bothel Woodenville Rds. awarded to Geo. A. Banderett, R. F. D. 2, at $10,666, and to A. K. Dye, Kent, at $17,133, respectively.

★Contract for constructing highway No. 5 awarded to Geo. A. Bandarett, Renton, at $50,000.

★Items marked thus give the names of parties awarded contracts.

★**Ashland, Ore.**—Contract for constructing 5 miles Pacific Highway from Ashland north to Talent awarded to Clark Henery Constr. Co., Sacramento, Cal., at about $50,000.

Hermosa Beach, Cal.—Hermosa Drive is to be paved with cement; cost, about $50,000.

San Francisco, Cal.—Lowest bid opened by Bd. Pub. Wks. for grading site for municipal car barns submitted by Danl. O'Day Co., at $34,850.

Clifton, Ariz.—Bids reported desired until Aug. 3 by Co. Supervisors, for constructing first section of State Highway between Clifton and Solomonville. H. O. Tunis, Co. Surv., Clifton.

★**Beaver City, Utah.**—Contract awarded July 6 for constructing 22,000 sq. ft. concrete sidewalk in Dist. No. 6 to Frazer Bros., Beaver City, at $3,500.

Boise, Idaho.—Bids desired until July 31 by State Highway Comr., Boise, for constructing roads of earth, sand, clay and gravel types, in counties as follows: Bannock, 49 miles; Bingham, 27 miles; Booneville, 18 miles; Jefferson, 8 miles; Madison, 12 miles; Fremont, 28 miles; Lincoln, 15½ miles; Blaine, 29½ miles.

Ft. Arthur, Ont.—City Council is considering widening, grading and macadamizing May St.; cost, $25,000.

★**Peterborough, Ont.** — Contracts for paving awarded by Bd. Wks. as follows: 20,019 sq. yds., to Foley & Gleason; their bid on 29,019 sq. yds. was $82,136, and for 9000 sq. yds., to Warren Paving Co.; their bid on total amount of work, 20,019 sq. yds., $84,419.

Toronto, Ont.—Repaving of Teraulay St. with wood block is contemplated by Comr. Works; cost, $36,681.

STREET CLEANING AND GARBAGE DISPOSAL.

Items Arranged Geographically

Philadelphia, Pa.—Bids desired until July 27 by Director Public Works, for removal and disposal of dead animals, garbage, etc., for year 1915, together with all work incidental thereto.

Petersburg, Va.—Council appropriated $25,000 for erecting garbage disposal crematory.

Akron, O.—Bids desired until July 30 by Director Pub. Service for constructing garbage reduction plant, to include erection of brick buildings, concrete foundations, floors and roofs, and steam generating plant. R. Winthrop Pratt, Engr., Hippodrome Bldg., Cleveland.

Columbus, O.—Bids desired until July 29 by Director Pub. Service for furnishing material and constructing refuse disposal plant No. 4. Thos. D. Banks, Engr., City Hall.

Sioux City, Ia.—Proposal to erect a $100,000 garbage disposal plant without cost to city and to collect and destroy garbage and refuse of all kinds has been made to City Council by W. B. Wright, Pres. of Wright Incinerator Co., Chicago, Ill. A franchise to operate plant for a period of 20 years is asked for by Wright Co.

Austin, Tex.—See "Sewerage and Sewage Disposal."

HYDRAULIC CONSTRUCTION AND RIVER IMPROVEMENTS.

Items Arranged Geographically

Dredging—Boston, Mass.—Bids were opened July 14 by Massachusetts Harbor and Land Comrs., Boston, as follows:

For dredging about 50,000 cu. yds. to provide channel and basin 5 ft. deep at Wild Harbor, Falmouth. Lowest bidder: Packard Dredging Co., Providence, R. I., 3.91 cts. per cu. yd.

★Dredging at Cuttyhunk Harbor, Gosnold; dredging about 16,000 cu. yd. material for extension of channel and basin with depth of 8 ft. awarded to John R. Burke, 78 Devonshire St., Boston, 3.25 cts. per cu. yd.

Building breakwater at Nobscusset, Mass. Lowest bidder: Wm. H. Connor, Middleboro, $6,800.

Dredging—Boston, Mass.—Bids desired until July 28 by Bd. Harbor and Land Comrs., Boston, for dredging channel and basin at Catumet Harbor and Squeteague Pond, requiring about 10,000 cu. yds. material.

★**Dredging—Providence, R. I.**—Contract for dredging in Providence River and Harbor, R. I., (bids opened June 30 by U. S. Engineer, Newport, has been awarded to the J. S. Packard Dredging Co., Providence, R. I., at $155,956.

★**State Canal Work—Albany, N. Y.**—Contract for Contract 121, Erie Canal, Sect. 6, furnishing and erecting 2 approach girder spans and strengthening and erecting truss span for highway bridge at Barge Canal, Center Line, Station 2901-83 (bids opened June 23), awarded to General Erecting Co., Syracuse, at $9,670.

State Canal Work—Albany, N. Y.—See "Bridges."

State Canal Work—Albany, N. Y.—Tonawanda Creek as the western terminal of the new barge canal as recommended by State Engr., Albany, has been adopted by Canal Bd.

Breakwater—Buffalo, N. Y.—Bids desired until Aug. 14 by Col. J. G. Warren, Corps Engrs., U. S. A., Buffalo, for constructing timber crib concrete breakwater extension, Cape Vincent Harbor, N. Y., advertised in Engineering Record.

Dam, Etc.—Gilbertsville, N. Y.—Bids opened as follows July 15 by Jos. T. Gilbert, Gilbertsville, for constructing earth dam, diversion channel and pipe lines, advertised from plans of Vrooman & Perry, Gloversville: Bonney & Hamilton, Rochester, $21,856; Suburban Eng'g Co., New York, $23,957; J. D. Tuller, Auburn, $24,892; E. H. Brown, Hempstead, $27,400; D. I. Snell, Canajoharie, $28,836; Oliver Hurst, Fort Hunter, $31,946; Chas. Kiehm, Utica, $32,963; Mason-Hilton Co., New York, $33,791; Fillebrown-Taylor Co., New York, $36,205; John R. Baxter, Jr., Utica, $38,155; J. W. Heller, Newark, N. J., $38,978.

River Improvement—Rochester, N. Y.—Mayor signed ordinance for deepening river channel for flood protection; estimated cost, $400,000.

★**Jetty—Cold Spring, N. J.**—Contract reported awarded by the U. S. Engineer, Wilmington, Del., for placing stone for repairs to jetties at Cold Spring inlet, to Conger, Duncan Constr. Co., New York, at $14,600. (Bids opened June 29.)

★**Retaining Wall—Pittsburgh, Pa.**—Contract awarded for building retaining wall at Brownsville Ave. to M. O'Hagan, Pittsburgh, at $4,571, and for Elsmore Square wall to Geo. S. White Co., Pittsburgh, at $1,680. Robt. Swan, Dir. Pub. Wks.

★**Harbor Improvement—Canton, Md.**—Contract awarded by Canton Co. to Maryland Dredging & Contr. Co. for dredging 35-ft. channel from main channel in lower harbor to new concrete pier, Lower Canton.

★**Dredge—Washington, D. C.**—Contract reported awarded by Navy Dept., Washington, to Skinner Shipbuilding & Drydock Co., Baltimore, Md., for constructing a seagoing suction dredge at $205,990.

Dock, Etc., Bonds—Pensacola, Fla.—Bids desired by Bd. City Comrs. until Aug. 15 for $400,000 dock and belt railroad improvement bonds. C. W. Eggart, City Clk.

Drainage—Donaldsonville, La.—Citizens of Smoke Bend Drainage Dist. reported to have voted $10,500 bonds for drainage.

Levee Work—New Orleans, La.—Bids desired until July 28 by Bd. State Engrs., New Orleans Court Bldg., New Orleans, for following levee work on Mississippi River:

Bayou Lafourche Dam, Parish of Ascension—Right bank, enlargement and reinforced concrete facing or paving, approximately 300 cu. yd. earth work, 1600 sq. yd. reinforced concrete facing or paving.

Carroll Levee, Parish of St. John—Raising and enlarging approximate contents 78,000 cu. yd.

Poydras Levee, Parish of St. Bernard—New levee, approximately 80,000 cu. yd.

Algerra to Venice, Parish of Plaquemine—Raising and enlarging and wooden revetment, approximate earthwork 22,000 cu. yd., 8000 ft. wooden revetment. Frank M. Kerr, Ch. State Engr., Baton Rouge.

★**Drainage System—New Orleans, La.**—Contracts awarded by Sewerage and Water Bd. as follows: For Contract 63-D, underground conduits for Sewerage Station C, to J. R. Stiehl, $4,505; Contract 65-D, Leonidas and Lower-Line Canals, to M. W. Wren, $114,517; Contract 66-D, Nashville Ave., Robertson, Delord-Willow Canals, to Wm. J. Kane, $247,059. For unit prices see Engineering Record of July 18.

Wharf—New Orleans, La.—Bids were opened July 18 by Bureau of Yards and Docks, Navy Dept., Washington, D. C., for repairs to wharf for floating dry dock, Naval Station, New Orleans, (specification No. 2082): Lewis M. Dalgran, 315 Caronelet St., New Orleans, $13,438; John S. Attenhofer, New Orleans, $17,096; Lester F. Alexander, 834 Audubon St., New Orleans, $16,860; Doullet & Williams, New Orleans, $19,000; John Reiss, New Orleans, $21,290; Henry Monk, 314 W. Belmont St., Pensacola, Fla., $14,736; Jefferson Constr. Co., New Orleans, $29,815.

Jetties—New Orleans, La.—All bids opened June 20 by the U. S. Engineer, New Orleans, for furnishing and placing on jetties at the South Pass, Mississippi River, about 25,000 tons of stone, have been rejected.

Levee Work—Tallulah, La.—Bids desired until July 28 by Bd. Comrs. 5th Louisiana Levee Dist., Tallulah, for following levee work on Mississippi River, right bank: Parish of Madison, Milliken Bend Levee, raising and enlarging 125,000 cu. yd.; Cabin Teele Levee, raising and enlarging, 75,000 cu. yd.; Duckport Levee, new 125,000 cu. yd., approx.; Fairview Levee, Parish Concordia, raising and enlarging, 80,000 cu. yd.

Levee Work—Memphis, Tenn.—Lowest bids opened by Bd. City Comrs. for work on North Memphis Levee submitted as follows: Reinforced concrete culvert across Front St. and main outfall for Bayou Gayoso, G. O. White, $25,085; for 1018 pieces creosoted piling, American Creosoting Works, $6,471.

Ditch—Union City, Tenn.—Bids desired until Aug. 4 by Harris Fork Drainage Dist. No. 3 (J. L. Pickle, Secy.) for approximately 446,700 cu. yd. ditch work with floating dredge and approximately 21,000 cu. yd. with teams, and clearing approximately 125 acres of right-of-way. W. C. Kelly, Engr., Union City.

Waste Gates and Weir—Celina, O.—Bids desired until Aug. 4 by State Supt. Pub. Wks., Columbus, for constructing additional waste gates and weir at Lake St. Marys, near Celina, advertised in Engineering Record.

Breakwater—Cleveland, O.—Bids reportdesired until July 29 by Commissioner Purchases and Supplies for constructing breakwater surrounding sewage disposal plant near foot of E. 140th St.

Creek Improvement—St. Marys, O.—The Comrs. of Auglaize, Mercer, Darke and Shelby Counties, have reached an agreement for the improvement of Mile Creek, at an estimated cost of $100,000 to $300,000. The portion to be improved is about 16 miles long.

Ditch—Warren, O.—Bids desired until Aug. 4 by Co. Comrs. for constructing Johnson - Noble Ditch, Mesopotamia Township, advertised in Engineering Record. W. R. Harrington, Co. Aud.

★**Breakwater Improvement—Chicago, Ill.**—Following are bids opened July 6 by Lieut.-Col. W. V. Judson for repairing superstructure of breakwater at Calumet Harbor, Ill.: (a) Great Lakes Dredg. & Dock Co., Chicago, Ill., $29,132 (recommended for acceptance); (b) Burk, Smith & Nelson, Muskegon, Mich., $34,742; Byrne Bros. D. & E. Co., Chicago, $86,848; Robt. Love & Son, Muskegon, Mich., $50,278. Unit prices of (a) and (b):

	(a)	(b)
4,900 lin ft. removing old superstructure, 30 ft. wide.	$ 1.20	$ 2.00
1,200 lin. ft. removing old superstructure, 24 ft. wide.	1.00	2.00
2,600 lin. ft. cutting down harbor side timbers.....	20.00	30.00
530,280 ft. B.M. framing and securing fir timber.....	10.00	10.00
114,000 ft. B.M. framing and securing deck supports, etc.	15.00	10.00
13,000 lb. drift bolts.....	0.04	0.04
5,000 lb. spikes.....	0.04	0.04
8,000 tons stone	1.50	1.60

Dock—Oshkosh. Wis.—Bids reported desired until July 30 by Board Pub. Works for constructing reinforced-concrete dock and outlet sewer at foot of Nebraska St.

Creek Improvement—Duluth. Minn.—City and County considering improving Mission Creek at a cost of $20,000.

Ditch—Slayton. Minn.—Bids desired until Aug. 11 by County Auditor for constructing Judicial Ditch No. 2, aggregating in length 94,275 ft.; total estimated cost, $50,169.

★**Ditch Work—Warren, Minn.**—Contract awarded to Northwestern Drainage Co. for excavating a drainage ditch 194 miles long in Marshall County.

Irrigation Work—Basin, Wyo.—W. H. Taylor is reported to have taken over Oregon-Basin Irrigation Co. and will complete irrigation system here at cost of about $1,500,000.

★**Irrigation—Malta, Mont.**—Contracts awarded for work on Milk River project as follows: To Jas. Brown, Browning, for earth work and structures in connection with the St. Mary Storage Unit at $3,126, and to Hess Flume Co., Denver, Col., for furnishing metal flumes for Milk River irrigation project at $5,024.

★**Levee — Brenham, Tex.** — Contract awarded to C. Nordstrem to repair Brazos River levee in Washington County Improv. Dist. No. 1, at $12,000.

Rip Rap, Etc.—Galveston, Tex.—Bids desired until Aug. 15 by Lieut. Col. C. S. Riche, Corps Engrs., U. S. A., for placing riprap and solid with sod at Federal Quarantine Station, advertised in Engineering Record

Dredging—Port Aransas. Tex.—Bids desired until Aug. 12 by Lieut.-Col. C. S. Richie, Corps Engrs., U. S. A., Galveston, for dredging at Port Aransas.

Canal—Montrose, Colo.—Lowest bids received July 6 by U. S. Reclamation Service, Montrose, for constructing about 3.4 miles Selig Canal and 3.5 miles Upper Selig extension canal, Selig Canal System (Umcompahgre Valley project), vicinity of Montrose, involving the excavation of about 145,000 cu. yds. material in open cut, was submitted by Sayler Constr. Co., Lamar, Colo., at $25,669.

★**Drainage—North Yakima, Wash.**—Contract reported awarded to Hans Peterson, Madison Blk., Seattle for constructing subdivision of Drainage Dist. No. 3 at $13,000.

Levee—Sacramento, Cal.—Advisory Bd. of State Engrs., Sacramento, considering plans for co-operative work in the matter of strengthening bank abutments so that bank levees of Sacramento and San Joaquin Rivers, now weak, cannot be torn away by changing current. About $50,000 will be spent by the State on the work.

Harbor Work—San Diego, Cal.—City clerk authorized to receive bids for purchase of $200,000 in bonds, for dredging harbor here.

★**Dredging—San Francisco, Cal.**—Contract awarded to Standard American Dredging Co., San Francisco, for dredging San Joaquin River and Stockton Channel, at $11,146 (bids opened June 25 by S. A. Cheney, Corps Engrs, U. S. A.).

Irrigation—Duchesne, Utah.—Press reports state that the Directors of the Upper Blue Irrigation District, Duchesne, is about to let contract to build the irrigation canal; cost, about $330,000. J. H. Benson, Duchesne, is a member.

Dam—Ogden, Utah.—The Davis & Weber County Canal Co. reported to have decided to raise the present dam 45 ft., at a cost of $110,000.

Wharf Exten.—St. Valier, Que.—Bids reported desired until July 30 by Secretary Dept. Pub. Wks., Ottawa, for constructing extensions to wharf at St. Valier, Que.

★**Dredging—Billings Bridge, Ont.**—Contract for dredging about 19 miles Finlay Creek in Gloucester Township awarded to Thos. Flemming, of Flemming, Dupuis Co., Hull, Que.

Drydock—Esquimault, B. C. — Bids about to be asked by Dept. Pub. Wks., Ottawa, Ont., for erecting drydock costing $5,000,000.

Dry Dock, North Vancouver, B. C.—H. Mowatt, of Vancouver, Pres. Dominion Shipbuilding & Eng. Co., writes that the proposed dry dock will cost about $5,000,000. Engineer, R. Fowler, Room 14, Canada Life Bldg., Vancouver.

Pumps, Etc.—Panama — Bids desired until Aug. 3 by General Purchasing Officer, Panama Canal, Washington, D. C., Cir. 862, for centrifugal pumps, c. i. pipe fittings, Venturi meters, electric cable, galvanized conduit, etc.

POWER PLANTS, GAS AND ELECTRICITY.

Items Arranged Geographically

Lewiston, Me.—Plans being prepared by I. W. Jones, Milton, N. H., for steam electric plant, 3000 hp., for Libbey & Dingley Co., Lewiston. Building is to be of brick, 100 ft. long and 60 ft. wide, estimated to cost $100,000. H. M. Dingley, Pres.; F. D. Gordon, Supt.

Syracuse, N. Y.—Bd. of County Supervisors reported to have approved plans for a power house to be erected on site of Tuberculosis Hospital; cost, $35,000.

Paterson, N. J.—Plans filed for steam turbine power plant for S. U. M. in the Paterson Falls basin; estimated cost, $75,000.

★**Tarentum, Pa.** — Contract reported awarded July 13 by Borough Council for constructing reinforced concrete power house to J. W. Walsh, Pittsburgh. Leo Hudson, Consulting Engr., 1210 House Bldg., Pittsburgh, Pa.

★**Venice, Pa.**—Contract awarded by Pittsburgh Coal Co. to D. T. Riffle, Pittsburg, for 2 power houses, fireproof in construction, to be built at Montour Mines Nos. 1 and 2, near Venice; cost, $35,000.

Walhalla, S. C.—Citizens voted $60,000 bonds for constructing light plant. Improvements are also contemplated to the waterworks. Bids desired at once. W. M. Brown, Mayor. W. C. Hughes, Walhalla, Engr.

Walterboro. S. C.—An election will probably soon be held to vote on issuing bonds for an electric light plant.

★**Punta Gorda. Fla.**—Contract for installing electric light plant awarded to P. E. Fansler, St. Petersburg, at $3,995. J. L. Corbett, Clk. Bd. Trus.

★**Urbana, O.**—Contract for erecting addition to power house at Univ. of Illinois awarded to Freeman & Brooks, Champaign; cost, $44,800.

Youngstown, O.—Westinghouse-Church-Kerr Co. reported to be preparing plans for a power plant for the Mahoning County Light Co.; cost, about $1,000,000.

Aurelia, Ia.—Business men have circulated petition asking City Council to call election for an electric lighting plant.

Iowa Falls, Ia.—Iowa Ry. & Light Co., Cedar Rapids, reported to be considering construction of a power plant here for supplying city with electric light.

Ceylon, Minn.—Citizens reported to have voted to construct electric light plant and extend water works.

Palmyra, Mo.—See "Water Works."

Billings, Okla.—See "Water Works."

Seattle, Wash.—Ordinances passed by City Council authorizing sale of $480,000 bonds for steam power plant and $400,000 for raising of Cedar River dam.

Nehalem, Ore.—See "Water Works."

Los Angeles, Cal.—Pacific Light & Power Co. reported to be planning an expenditure of $1,000,000 for extension to its present system in Southern California, to provide for distribution of Big Creek power.

★*Items marked thus give the names of parties awarded contracts.*

ELECTRIC RAILWAYS.

Items Arranged Geographically

Boston, Mass.—See "Paving and Roads."

Boston, Mass.—See "Public Buildings and Schools."

Holyoke, Mass.—Holyoke St. Ry. Co. purchased site on S. Pleasant St., Mill alley, for erection power plant.

Pittsburgh, Pa.—Plans being contemplated by Pittsburgh, Harmony, Butler & New Castle Ry. (R. H. Boggs, Pres., Pittsburgh) for extension from Butler to Youngstown. It is planned to bring line into Youngstown over proposed viaduct at Lincoln Park, to follow Oak St. and cross proposed Oak St. viaduct to Summit Ave. and reach Youngstown.

Wilmington, N. C.—Wilmington & Ft. Fischer Ry. Co. chartered to construct 18-mile electric railway from Wilmington to Ft. Fischer Beach.

Columbus, Miss.—Preliminary arrangements being made by Mississippi Electric Ry. Co. to build electric railway from Memphis to Columbus, Miss., and extend into Alabama through Pickens County, with Aliceville as the terminus. Headquarters: Columbus. F. W. Crisby, Columbus, is interested.

New Orleans, La.—Right-of-way is being secured by Orleans-Kenner Electric Ry. Co., between New Orleans and St. Charles. This 110-mile line will connect Kenner, New Orleans, Hanson City, Harahan and Shrewsbury. J. A. Bowman, New Orleans, Prest.

Hopkinsville, Ky.—R. E. Cooper and John H. Ball have asked for a franchise to maintain and operate an electric railway in Christian County, the franchise to run for 20 years and to provide for manufacture and distribution of electricity. Bids for the purchase of the franchise will be received by County Clerk until Aug. 3.

Evansville, Ind.—Surveys completed for constructing electric railway from Evansville to New Harmony for Evansville, New Harmony Traction Co.

Lafayette, Ind.—Lafayette & Northwestern R. R. Co. received franchise from Comrs. Tippecanoe County for constructing railroad county. This is part plant to construct road from Lafayette to Chicago, Ill., via Hammond and Rensselaer.

Lansing, Mich.—Lansing Connecting R. R. incorporated to build electric railways in Lansing. Capital, $50,000. Geo. C. Hutchinson, Secy.

Amboy, Ill.—Lee County Central Electric Ry. Co. incorporated to build electric railway from Amboy to Rochelle Ashton, De Kalb, Dixon, Mendota, Princeton and intermediate points; capital, $250,000. Incorporators: Herman L. Shaw, Elijah A. King.

Quincy, Ill.—Quincy R. R. Co. (W. L. Peters, Ch. Engr.,) contemplates installing equipment at power house; cost $3,210.

Maysville, Wis.—Dodge County Electric Ry. Co. chartered to build electric railway to connect Mayville, Horincan, Juneau, Rolling Prairie, Beaver Dam, South Beaver Dam, Columbus and intermediate points; capital, $25,000.

★Stoughton, Wis.—Contract for extending Janesville & Madison Traction line from Edgerton to Stoughton awarded to M. M. Doran, Madison.

Hutchinson, Kan.—Plans being considered by Hutchinson & Northern Ry. Co. to begin work in near future on 14-mile line between Hutchinson and Burrton. Geo. Theis, Jr., Prest.

Hutchinson, Kan.—Arkansas Valley R. R. Co. (Chas. D. Bell, Ch. Engr., Wichita,) contemplates extending railway from Halstead to Hutchinson.

Olathe, Mo.—Missouri & Kansas City Interurban Ry. Co. (Fred. O'Flaherty, Ch. Engr., Kansas City,) contemplates extending line from Olathe to Ottawa.

Little Rock, Ark.—Construction work will soon begin by Little Rock & Hot Springs Electric Ry. for constructing line between Hot Springs and Little Rock.

Baker, Ore.—Preliminary arrangements being made to build electric railway in Baker and extend it to Eagle Valley, 45 miles beyond Baker in northeastern part of county. Among those interested are Joseph Kries, John B. Yeon, Portland.

Chico, Cal.—Northern Electric Co. has been authorized to expend $50,000 for improvements of railway; work consists of reballasting main roadbed of entire system and replacing wooden culverts with concrete.

Healdsburg, Cal.—Alfred D. Bowen asked Council for franchise to build electric railway in Healdsburg; also asked Bd. of Supervisors for franchise to build electric railway from Healdsburg through Sonoma County, 11 miles. Preliminary arrangements being made to begin construction of proposed line in near future.

Lordsburg, Cal.—Pacific Electric Ry. Co. (Geo. E. Pillsbury, Ch. Engr., Los Angeles) received franchise from Council for line from Lordsburg to North Pomona to connect with line to San Bernardino.

Los Angeles, Cal.—Montecito Ry. Co. incorporated to build electric railway in Los Angeles from Griffin Ave. to Mt. Gillig, 2½ miles. Capital, $60,000. Among incorporators, W. D. Lawrence and E. T. Wright.

Oakland, Cal.—San Francisco-Oakland Terminal Rys. Co. has awarded contract to San Francisco Bridge Co. for driving and furnishing creosoted piling along Key Route mole from rock bulkhead to end of pier in Oakland; cost, $270,000.

San Diego, Cal.—Bay Shore R. R. Co. received franchise to build electric railway from Ocean Beach across the channel to False Bay and along Strand to Bird Rock Beach in San Diego. Work will begin at once.

San Francisco, Cal.—Bd. of Supervisors has requested city engineer to prepare plans and specifications for extension of municipal railway lines into Potrero and Sunset districts in San Francisco. It is proposed to extend railway through Golden Gate Park, from 10th Ave. in Richmond district, to south side of park, and Potrero Ave. line into Scotch Hills section, according to resolutions introduced in Council.

Bruneau, Idaho.—Electric Light & Power Co. (W. Wallace, Gen. Mgr.,) contemplates constructing electric railway between Bruneau and Glenn's Ferry.

Saskatoon, Sask.—Plans being prepared by Saskatoon Municipal Ry. Co. to build power house in Saskatoon.

RAILROADS.

Items Arranged Geographically

★Danville, Va. — Contract reported awarded by the Southern Ry. Co. to Robt. Russell, Danville, for constructing double-track cut-off line between Danville and Dry Dock, Va., 12.95 miles; cost, $247,000. Contract said to include bridge over Dan River.

Lynchburg, Va.—See "Bridges."

Pensacola, Fla.—See "Hydraulic Construction and River Improvements."

Buffalo, Ky.—T. C. Feller, Lexington, is reported to be securing right-of-way for construction of a railroad from Ida May to Buffalo for the Farman-Earl Co., lumbermen.

Greenville, S. D.—The Greenville & Southeastern Ry. Co., incorporated with a capital of $50,000 to build a railroad from Rosholt to Greenville, as a part of the Fairmont and Veblen line. Incorporators: Julius Rosholt, Minneapolis, Minn. Geo. F. Anderson, Verben, S. D., and others.

Brownsville, Tex.—Southwestern Eng. Co., Gunter Bldg., San Antonio, are engineers for standard gauge railroad to be constructed between Brownsville and Point Isabel. A. A. Browne, D. A. O'Brien and others interested.

Dallas, Tex.—Santa Fe R. R. (C. F. W. Felt, Ch. Engr. System, Chicago, Ill.) reported to be having plans prepared for the lowering of grade from Fitzhugh Ave. to city limits, constructing a viaduct across Merlin St. and underground crossing at Powhatan.

Cornwall, Ont.—Glengarry & Stormont Ry. plans to build a 27-mile line between St. Polycarpe and Cornwall, Ont., to be operated by steam. G. W. Farrell, Pres., Montreal, Que.

Ottawa, Ont.—Bids desired until Aug. 4 by Secretary Comrs. Transcontinental Ry., Ottawa, for constructing Wye at Cap Rouge and completing St. Malo Line.

Edmonton, Alta.—It is reported that more than $10,000,000 will be expended in the province of Alberta in carrying out the 1914 construction work of the Canadian Northern Ry. M. H. MacLeod, Gen. Mgr., Winnipeg, Man.

PUBLIC BUILDINGS AND SCHOOLS.

Items Arranged Geographically

★Millinocket, Me.—Contract for erecting brick school (bids opened July 6) awarded to C. J. Rush, Millinocket at $38,503, including heating and plumbing. Thos. Quinn, Chmn. Bldg. Com.

Manchester, N. H.—Plans of Wilfred E. Provost, of F. T. Provost & Co., Manchester, for the proposed isolation hospital, a 2-story brick building costing $50,000, have been selected by the Bd. Health.

Boston, Mass.—Bids desired until Aug. 4 by Boston Transit Comn., for enlargement of Park St. station of the subway, advertised in Engineering Record.

Norfolk, Mass.—Bids desired until Aug. 4 by Trustees Foxboro State Hospital, administering Norfolk State Hospital, at office of Kendall, Taylor & Co., Archts., 93 Federal St., Boston, for erecting additions to power house; also erecting chapel and assembly building and heating and plumbing in same.

Pawtucket, R. I.—Following are bids received by School Com. for erecting school in Darlington Section: Wilmarth Mackillop Co., Inc., $66,038; B. F. Smith Constr. Co., $67,200, and Frank G. Rowley Co., $64,675.

★Providence, R. I.—Contracts for erecting laundry building at State Hospitl for Insane awarded by Bd. Contract and Supply as follows: General contract, P. E. Harding Co., Providence, $18,918; heating to Power Heating & Ventialting Co., Boston, Mass., $2,237; plumbing to M. F. Murpny, $1,745.

Wallum Lake, R. I.—Bids desired until Aug. 1 by State Bd. Control, Providence, for erecting Children's Ward at State Sanatorium, Wallum Lake, including heating, plumbing and electric wiring. Walter F. Fontaine, Archt., Woonsocket.

Norwalk, Conn.—Bd. of Educ. considering erection of two 8-room brick schools. Plans of Philip N. Sunderland, Danbury, selected for the school, 8 classrooms and an assembly hall, to cost $35,000, and plans of Jos. A. Jackson, New York, for another school.

Seymour, Conn.—About $50,000 is to be spent for erecting library in Seymour. W. L. Ward, Pres. Bd. Library Directors.

Stamford, Conn.—Bids reported desired until July 27 by Bd. Selectmen, for erecting 2-story and basement school on Adams St. Probable cost, $70,000. Emmons & Abbott, Archt., Washington Bldg.

★Albany, N. Y.—Contract for fireproofing Quackenbush St. Water Station awarded to J. C. Nolan at $38,700; plumbing, A. J. Eckert & Co. at $2,950; roofing, Jas. Ackroyd & Sons, $8,610.

★Contract for erecting 3-story brick, 49 x 69 ft. addition to St. Patrick's Inst. and Convent on Central Ave. and North Lake Ave., awarded to Wm. G. Sheehan Constr. Co., at $38,000.

Plans are being prepared by W. J. Obenaus, 119 State St., and L. Rodman Nichols, for 8-room addition to School No. 16; cost $65,000.

Bedford Hills, N. Y.—Bids desired until July 29 by President Bd. Mgrs., N. Y. State Reformatory for Women, Bedford Hills, for piping and conduit for new boiler plant at N. Y. State Reformatory or Women, advertised in Engineering Record. Lewis F. Pilcher, State Archt., Albany.

Buffalo, N. Y.—Plans completed by G. A. Setter, 33 Burch Ave., for 2-story and basement school 50 x 107 ft. to be built at Ludington and Ideal Sts. for St. Agnes R. C. Church; cost $30,000. Rev. Jos. Fisher, Pastor.

Bids reported desired by Comr. Public Works for erecting 2d Prect. Police Station and 8th Prect. Station.

Ithaca, N. Y.—Plans about completed by Lewis F. Pilcher, Albany, for drill hall to be erected at Cornell Univ. at a cost of $350,000.

Mechanicsville, N. Y.—Bids desired until Aug. 3 for $22,000 municipal building bonds. C. F. Green, Village Clk.

Middletown, N. Y.—Bd. Mgrs. considering enlarging Thrall Hospital at a cost of $63,000.

New York, N. Y.—Only bid received July 14 by Bd. Water Supply for roofing with reinforced concrete tiles 46 superstructures along line of Catskill aqueduct between Ashokan and Hill View Reservoirs, was submitted by American Cement Tile Mfg. Co., Pittsburgh, Pa., at $111,947.

Plans being prepared by Chas. H. Higgins, 30 Church St., for mezzanine floor, structural steel and reinforced concrete, to be constructed in Washington Market, comprising about 15,000 sq. ft. space.

Following are the four lowest of the bids received by the Superv. Archt., Washington, D. C., for alterations in Courthouse and Post Office building, New York City: Neptune B. Smythe, New York, $58,200; Conners Bros. Co., New York, N. Y., $67,000; Howard W. Peterson Co., New York, $63,890; Northeastern Constr. Co., New York, $62,231.

Perrysburg, N. Y.—Lowest bids received by the Comr. Pub. Wks., Buffalo, for erecting buildings at Perrysburg at the J. N. Adams Memorial Hospital submitted by J. A. Taylor at $19,300 for employees' building and $98,980 for the 2 tuberculosis pavilions for children. Hager & George lowest for plumbing and heating employees' building at $2,822.

Rochester, N. Y.—Bids desired until July 31 by Bd. Educ. for erecting Silvanus A. Ellis No. 26 School on Bernard St.; also alterations to Andrews No. 9 School. Edwin S. Gordon, Archt., Rochester.

Utica, N. Y.—Bids desired until Aug. 10 by State Armory Comn., Albany, for repairs and improvements to State Armory at Utica. Bids desired separately for masonry and carpentry, standpipe service heating.

Bloomfield, N. J.—Bd. Educ. selected plans of Wm. W. Rasmussen, 1133 Broadway, New York, N. Y., for 2-stock brick, stone or terra cotta school to be erected on Grove St.; cost $45,000.

Englewood, N. J.—Bids reported desired until July 29 at office of Crow, Lewis & Wickenhoefer, Archts, 200 5th Ave., New York, for erecting an addition to Englewood Hospital; probable cost $100,000.

Millville, N. J.—Bd. Educ. considering erection of 18-room school; cost, $79,000.

★Newark, N. J.—Contracts awarded by Com. Buildings and Grounds, Bd. Educ., as follows for constructing additions to N. 7th St. School: mason and carpenter work to Becker Constr. Co., 415 13th Ave., $67,184; steel and iron work, Hedden Constr. Co., Carlisle Pl., $6,832; roofing and sheet metal work, Newark Cornice and Skylight Co., 9 17th Ave., $1,432; plumbing, A. Taaffe & Co., 94 Plane St., $4,990.

Nutley, N. J.—Plans of Armstrong & DeGelleke, 122 E. 21st St., New York, N. Y., have been selected by Bd. of Educ. for school in southwestern section of town, to be of concrete, brick and stone, and cost $48,000.

★Bradford, Pa. — School Directors awarded to Tuna Mfg. Co. general contract for erecting grade school in 6th Ward at $25,532.

A. D. Burns bid $7,121 for the heating and ventilating and plumbing in above building. B. A. Wise, City Engr.

Braddock, Pa.—Plans of C. W. Milligan, Pittsburgh, have been approved for erection of 4-story addition to Braddock Hospital at 5th St. and Braddock Ave.

Cheltenham, Pa.—Bids desired until Aug. 5 by School Bd., Cheltenham Township, for erection, including heating, plumbing and electric work of a school at Cheltenham. Herbert C. Wise, Archt., 133 S. 12th St., Philadelphia.

★Darby, Pa.—Contract awarded to Henry L. Brown, 1714 Sansom St., Philadelphia, for 2-story brick and terra-cotta schools, at $52,000. Folsom & Stanton, Archts., Philadelphia.

Easton, Pa.—Plans being prepared by Leh & Bitting, South Bethlehem, for 2-story brick addition to Hay School; cost, $24,000.

★Forest City, Pa.—Contract for erecting high school awarded by School Bd. as follows: Keiper & Vockroth, Scranton, plumbing, $2,086; Holt Lumber Co., Carbondale, carpentry and masonry, $22,500, and M. J. Crogan, Scranton, heating, $3,072.

Ingram, Pa.—Bids desired until Aug. 3 by School Dist., Boro. Ingram, for erecting grade school; also separate bids for ventilating, plumbing, heating and electric wiring. C. Dowler, Archt., Arrott Bldg., Pittsburgh.

Landsdowne, Pa.—Plans of Moffet & Stewart, Jessup Bldg., Camden, N. J., selected for 2-story brick and stone school, to cost about $50,000. Address School Bd.

★Milton, Pa.—Contract for heating in Central Grammar School, also heating in Grant School, awarded to Wm. H. Taylor & Co., Allentown, at $10,600.

Philadelphia, Pa.—Plans being prepared for Frankford high school to be erected at Oxford Ave. and Harrison St.

Pittston, Pa.—Reported that bids are wanted for erecting the city high school; probable cost, $175,000. Address Bd. Educ.

Rochester, Pa.—Bids desired until Aug. 1 by Bd. Directors School Dist. for heating and ventilating and plumbing in Pinney St. School. F. E. Mathews, Archt., Leaf Bldg.

Spring City, Pa.—Bids desired until July 29 by Bd. Trus. Eastern Pennsylvania State Institution for Feeble-Minded and Epileptic, Spring City, for constructing main and connecting corridors and heatng, plumbing and electric lighting. Philip H. Johnson, Archt., Land Title Bldg., Philadelphia.

★Wilkes-Barre, Pa.—Hanover Township School Bd. has awarded contracts for erecting a 4-room school in Dundee and a 4-room school in Concrete City to Herman Milander, Wilkes-Barre, at $62,374 and $23,872, respectively.

★Washington, D. C.—Contracts awarded by Superv. Archt., Washington, D. C., for erecting U. S. Post Offices as follows:

Chico, Cal.—To B. J. Duffy, Davis, $76,980.

Burlington, N. J.—To J. S. Rogers Co., Moorestown, $37,691.

Mobile, Ala.—J. W. Emery, Philadelphia, $270,460.

Grenada, Miss.—Algernon Blair, Montgomery, Ala., $40,318.

Newport, Ark.—A. E. Anderson, Clarksville, Tex., $40,736.

Casper, Wyo.—C. R. Inman, Casper, $49,785.

Hanford, Cal.—Frank Gallagher, San Francisco, $52,990.

Mt. Vernon, Ill.—Herman Constr. Co., St. Louis, Mo., $60,593.

Gastonia, N. C.—W. J. Brant Constr. Co., Norfolk, Va., $52,254.

Washington, D. C.—House passed bill appropriating $150,000 for rebuilding Western High School, recently destroyed by fire.

Lowest bid received by Comrs. D. C. for installing new steam heating system in Webster School was from Biggs Htg. Co., Washington, at $6,400.

Frankford, Del.—Citizens voted in favor of erecting a high school.

Baltimore, Md.—Only bid received July 8 by the Superv. Architect, Washington, D. C., for additions to heating system in

★Items marked thus give the names of parties awarded contracts.

U. S. Post Office, Baltimore, was from Crook, Kries & Co., Baltimore, at $9,385.

President Wilson has signed bill appropriating $550,000 for erecting the immigration building in Baltimore. Plans are being prepared by Superv. Archt., Washington, and will include a power house and hospital with other buildings. Bids for construction will not be asked for about 6 months.

Glen Echo, Md.—Three buildings are to be erected as a memorial to Clara Barton by the Red Cross Society. The administration building, contract for which has been awarded to Norcross Bros., Worcester, Mass., is to cost $100,000. A. B. Pierson, Washington, D. C., Archt. Tentative plans which have been accepted were prepared by Stephen C. Earle, Worcester, Mass., for the aid building to cost $75,000, and for the nurses' home, to cost $50,000.

Elkton, Md.—Elkton Armory Comn. voted to erect armory on Elkton Fair Grounds; appropriation available, $30,000.

Covington, Va.—Lowest bid received July 14 by Superv. Archt., Washington, D. C., for erecting U. S. Post Office was from Olin Gerlach, Frostburg, Md., at $38,980 for limestone and $39,800 for sandstone.

Pulaski, Va.—Bids desired until Aug. 3 by School Bd., Pulaski School Dist. No. 4, for $58,000 bonds.

★**Terra Alta, W. Va.**—Contract awarded by State Bd. Control to Chas. E. Spindler, Kingwood, for erecting additional buildings at the State Tuberculosis Hospital at $27,000.

Spartanburg, S. C.—Plans being prepared by Walters & Edwards, Atlanta, Ga., for municipal and jail building to be erected on Broad St.; cost, $25,000.

★**Columbus, Ga.**—General contract awarded to Southern Ferro Concrete Co., 340 Trust Company of Georgia Bldg., Atlanta, for erection of city hospital, 4 stories and basement, approximately 50 x 120 ft. Bids are wanted by the general contractor covering the sub-contract work: Elevators, roofing and sheet metal, ornamental iron, plastering, painting, mill work, tile, marble and terrazzo, etc. E. C. Wachendorff, Empire Bldg., Atlanta, Archt. M. M. Moon, City Clk.

Birmingham, Ala.—Executive Com. Birmingham College adopted plans of Wm. H. Kessler and Wm. T. Welton, American Trust Bldg., for buildings to be erected for College.

★**Mobile, Ala.**—Bids reported desired until July 27 by Superintendent Educ., for installing steam heating system in Barton Academy, Russell, Semmes and Old Shell Rd. schools. Alternate bids received for system known as one-pipe low-pressure gravity system. Stevens & Nelson Co., New Orleans, La.

★**Winchester, Ala.**—Contract for erecting court house here awarded to Little-Cleckler Co. at about $70,000.

Tupelo, Miss.—Bids desired until Aug. 26 by Supervising Architect, Washington, D. C., for construction, complete (including mechanical equipment, lighting fixtures and approaches) of a 1-story mezzanine and basement, stone and brick-faced post office.

New Orleans, La.—Bids opened by Bureau of Yards and Docks, Navy Dept., Washington, D. C., as follows for repairs and improvements to buildings, Naval Station, New Orleans, (Specification No. 2083), bidders of New Orleans unless otherwise stated: Lewis M. Dalgran, 315 Carondelet St., $35,842; John S. Attenhofer, 826 Perdido St., $29,978; F. W. Bixler, 408 Perrine Bldg., $28,430; Henry Monk, 314 W. Belmont St., Pensacola, Fla., $28,864; Lester F. Alexander, 834 Audubon Bldg., $31,677; Jefferson Constr. Co., 1101 Queen and Crescent Bldg., $48,290.

Memphis, Tenn.—The Negro Baptist Theological Seminary is to be erected in Memphis. About $100,000 is to be spent in buildings and site. Rev. T. L. Searcy, Pastor Metropolitan Church, Memphis, may be able to give further information.

Tentative plans for Prescott School submitted to School Bd.; cost, about $85,000.

★**Rockwood, Tenn.**—Contract awarded to T. S. Moudy & Co., Chattanooga, for the school at $26,000; Knowdler & Meredith, Chattanooga, heating and plumbing, at $6,047. H. L. Huntington, Chattanooga, Archt.

Frankfort, Ky.—Bids desired until Aug. 3 by State Bd. Control, Charitable Institutions, Frankfort, for new mechanical stokers to be installed under boilers at Institute for Feeble Minded, Frankfort. D. X. Murphy & Bro., Archts., Louisville.

Alliance, O.—Bids desired until Aug. 8 by Director Pub. Service for erecting City Hall and remodeling part of Central Fire Station building.

★**Akron, O.**—Contract for erecting People's Hospital awarded to Dawson Constr. Co., at $69,450.

Cincinnati, O.—Bids desired until Sept. 1 by Bldg. Comn. (Geo. C. Deckenbach, Secy.), for erecting courthouse and jail, including heating, ventilating, electrical work, elevator equipment and power plant. Rankin & Kellogg & Crane, Archts., 1012 Walnut St., Philadelphia, Pa.

Clarksburg, O.—Bids desired until July 29 by Bd. Educ., Deerfield Township, School Dist., for erecting High School at Clarksburg. J. H. Hicks, Archt., Washington C. H.

Cleveland, O.—Plans for high school to be erected in Cleveland Heights, to be 3 story, brick, stone and steel, and cost $200,000, are to be prepared by Walker & Weeks, 1900 Euclid Ave., Cleveland.

Columbus, O.—Bids desired until Aug. 10 by Clerk Bd. Educ. for erecting Studer Avenue School. D. Riebel, Archt., New First Natl. Bank Bldg.

Dennison, O.—Plans being prepared for the brick and cement fireproof city hospital; cost, $27,000. Address Twin City Hospital Directors.

Raymond, O.—Bd. Educ. Liberty Township sold about $30,000 bonds for erecting school in Raymond.

Springfield, O.—Amended plans for the Memorial Hall submitted by Frank L. Packard, Columbus, have been accepted by the Memorial Comn. Bids for construction soon to be asked.

★**Troy, O.**—Contract awarded by County Comrs. to Gem City Boiler Co., Dayton, for installing heating plant at Miami County Infirmary at $3,033. M. T. Staley, Co. Aud.

Youngstown, O.—Bids desired until until Aug. 6 by Bd. Educ. for erecting an 8-room school, fireproof construction, on Japan St. C. F. Owsley, Archt., Dollar Savings Bank; also fireproof school on Robinwood and Dupont Sts. E. R. Thompson, Central Ave. Sq. and Wick Ave., Archt.

Beech Grove, Ind.—Bids reported desired until July 29 by School Bd. for erecting an 8-room school, including auditorium, heating, plumbing, electric wiring, etc.; also alternate bids on 12-room school with same equipment. Frank P. Reidel, Archt., Indianapolis.

Beech Grove, Ind.—Bids desired until July 29 by School Bd. for erecting an 8-room school, including heating, plumbing, electric wiring and vacuum cleaning system; also an alternate bid on a 12-room school. Frank P. Reidel & Co., Archts., Indianapolis. Probable cost $40,000.

★**Terre Haute, Ind.**—Contract for erecting addition to the grade school (bids opened July 17) awarded to Robt. E. Meyer, Terre Haute, at $17,297.

Kalamazoo, Mich.—Plans being prepared for a heating plant for the Western Michigan Normal School; cost, $40,000.

★**Macomb, Ill.**—Contract for heating apparatus, plumbing and sewer, also vacuum cleaner in grade and high school awarded to E. Best Plumb. & Htg. Co., Quincy, at $20,447.

★**Pekin, Ill.**—General contract for erecting court house (bids opened July 8) awarded to English Bros., Champaign, at $159,000, and for heating, plumbing and sewerage to C. C. Schmennan, Jacksonville, Ill., at $7,395.

Rockford, Ill.—Bids reported desired until July 28 by Rockford Park Dist. for 2 public comfort and shelter houses at South and Sunset Parks. Ecklund & De Arment, Trust Bldg.

Springfield, Ill.—Bids desired until Aug. 3, State Bd. of Administration, Springfield, for remodeling plumbing in hospital annex, Illinois Soldiers' and Sailors' Home, Quincy (Col. John E. Andrew, Managing Officer); also installing 2-pipe system of vacuum heating in Chicago State Hospital, Dunning (Dr. Geo. Leninger, Managing Officer).

Bids desired same time and place as above for erecting buildings, also separately for plumbing, heating and sewers for same as follows:

Watertown—Infirmary for men, Watertown State Hospital.

Kankakee—Contagious disease building, Kankakee State Hospital.

Dunning—Nurses' home, Chicago State Hospital. Jas. B. Dibelka, State Archt., 29 S. LaSalle St., Chicago.

Bids desired same place as above until Aug. 13, as follows:

Kankakee—Cottage for tubercular patients, Kankakee State Hospital; cost $20,000.

Anna—Cottage for tubercular patients, Anna State Hospital; cost $18,000.

Watertown—Cottage for tubercular patients, building for female employees and an amusement hall, Watertown State Hospital; cost $18,000, $5,000 and $25,000, respectively.

Dunning—Administration building, receiving buildings and 2 cottages, Chicago State Hospital; cost $275,000.

Lincoln—Cottage for tubercular patients and 2 cottages, Lincoln State School and Colony; cost $14,000 and $50,000, respectively.

St. Charles—Three farm cottages, St. Charles School for Boys; cost $50,000.

Whethersfield, Ill.—Citizens voted $30,000 bonds for purchase of site and erection of township high school.

Butternut, Wis.—Bids desired until Aug. 1 by Secretary Union Free High School for erecting a combined grade and union free high school also separate bids for plumbing and heating. Henry Wildhagen, Archt., Ashland.

Delavan, Wis.—Lowest bid received July 16 by Superv. Archt., Washington, D. C., for erecting U. S. Post Office was submitted by Northern Constr. Co., Milwaukee, at $41,374 for limestone and $41,850 for sandstone.

Milwaukee, Wis.—Bids desired until Aug. 14 by Supervising Architect, Treas. Dept., Washington, D. C., for construction, complete (including plumbing, gas piping, heating apparatus, electric conduits and wiring, interior lighting fixtures and approaches of U. S. Post Office, Milwaukee.

★**Ames, Ia.**—Contract for erecting 2-story brick Home for Nurses at State Univ. awarded to W. F. Kucharo & Co., Des Moines, at $39,380.

★**Iowa City, Ia.**—Contract for erecting brick home for nurses at State Univ. awarded to W. F. Kucharo & Co., Des Moines, at $39,380.

Keokuk, Ia.—Bids desired until Aug. 1 by Bd. Educ. for erecting Garfield School; also separate bids for heating and ventilating and plumbing. H. E. Ratcliffe, Archt., Keokuk.

Muscatine, Ia.—An armory costing $40,000 is to be erected for Company C, 44th Regt., I. N. G. Capt. H. F. Lange may be able to give further information.

Hendrum, Minn.—Bids desired until July 30 by Clerk Bd. Educ. for plumbing system in brick school. Hartford & Jacobson, Archts., 601 Capital Bank Bldg., St. Paul.

★**Minneapolis, Minn.**—Contract for erecting School of Mines at Univ. of Minnesota (bids opened July 6) awarded to R. J. Cheney & Co., Minneapolis, for general construction, at $114,286, and for heating and plumbing to M. J. O'Neil, St. Paul, at $14,024. D. O. Mullen, Secy. State Bd. Control, St. Paul.

Bids desired until Aug. 4 by G. A. Sandberg, Purchasing Officer, for erecting a cold storage plant at the University Farm, to include refrigerating equipment.

Olivia, Minn.—Lowest bid received for erecting armory was submitted by C. L. Grover, Zumbrota, at $22,000.

Frontenac, Kan.—Bids reported desired until 29th by Bd. Educ. for erecting 2-story brick addition to Central School. G. J. Munn, Archt., 307 W. 7th St., Pittsburgh, Pa.

★**Topeka, Kan.**—Contract for heating and plumbing in high school awarded to C. F. Gustafson & Co., at $8,725.

Garden City, S. D.—Bids desired until Aug. 4 by Secretary Bd. Educ. for erecting a public school; also for heating, ventilating and plumbing in same. A. H. Shoultz, Archt., Watertown.

Billings, Mont.—All bids received for erecting county detention hospital rejected as being too high. New bids to be asked. Address County Comrs.

Denton, Mont.—Bids desired until Aug. 4 by County Clerk, Lewistown, for erecting jail at Denton.

Malta, Mont.—School Bd. will erect a high school.

Miles City, Mont.—Bids reported desired until Aug. 10 by City Clerk for erecting city hall.

Kansas City, Mo.—Bids desired until July 27 by Bd. Dirs. School Dist. of Kansas City for erecting an addition to Emerson School, Tracy Ave. Chas. A. Smith, Archt., Finance Bldg.

Webster Groves, Mo.—Bids desired until Aug. 1 by Bd. Directors, School Dist. of Webster Groves, for erecting school on Gray Ave. M. P. McArdle, Archt., Chemical Bldg., St. Louis.

★**Dallas, Tex.**—Contract for erecting 12-room addition to John Henry Brown School awarded to J. M. Green, at $31,135.

★**Galveston, Tex.**—Contracts awarded by Bd. School Trus. for erecting West End School at Ave. "Q" and 38th St., and addition to Rosenberg School to Jas. Taylor Bldg. Co., Ft. Worth, at $27,475 and $24,675, respectively.

★**San Antonio, Tex.**—Contract for erecting Beacon Hill School awarded by School Bd. to J. Y. Moray at $23,973.

★**Las Vegas, N. M.**—Contract for erecting addition to State Hospital awarded to M. M. Sundt, at $64,000.

Port Angeles, Wash.—Bids reported desired until Aug. 1 by County Comrs. for erecting reinforced-concrete and stone courthouse. Probable cost, $75,000. F. W. Grant, Archt., Melhorn Bldg., Seattle.

Republic, Wash.—Plans being prepared by Sweatt & Diamond, Spokane, for a high school; cost $40,000.

Seattle, Wash.—Sub-bids reported desired by Puget Sound Bridge & Dredg. Co., Central Bldg., general contractors for new court house, on plumbing, heating, electric wiring, elevators, sheet metal, stone and terra cotta work, etc.

★**Tacoma, Wash.**—Contract awarded to J. E. Bonnell, 760 Commerce St., for erecting a 5 and 4-story reinforced-concrete and steel building for Tacoma General Hospital, at 3d and K Sts.; cost $200,000. Heath & Cove, National Realty Bldg., Archts.

★**Tolt, Wash.**—Contract for constructing high school awarded to T. E. Young, Empire Bldg., Seattle; cost about $25,000. Stephen & Stephen, New York Blk., Seattle, Archts.

Eugene, Ore.—Bids reported desired desired until July 29 by Clerk School Bd. for erecting 3-story reinforced-concrete and brick school; cost $110,000. Preusse & Hunsicker, Archts., I. O. O. F. Bldg.

Bakersfield, Cal.—School bonds amounting to $40,000 have been sold.

Eureka, Cal.—Bids desired until Aug. 25 by Supervising Architect, Washington, D. C., for an oil burning plant for heating boiler in U. S. Post Office and Customhouse.

Lindsay, Cal.—School bonds amounting to $50,000 sold.

Norwalk, Cal.—Preliminary plans prepared by Geo. R. McDougall, State Archt., Sacramento, for State Hospital to be erected in Norwalk and to include main administration building, hospital, employees' quarters, power house and commissary, all of brick construction and to cost $160,000.

Pasadena, Cal.—Plans being prepared by Norman F. Marsh, B'way Central Bldg., Los Angeles, for 2-story brick fire house; cost, $70,000.

Petaluma, Cal.—High school bonds amounting to $110,000 sold.

Richmond, Cal.—High School bonds amounting to $80,000 sold.

Rio Vista, Cal.—School bonds amounting to $60,000 sold.

★**San Diego, Cal.**—Contract for erecting additions to Grant School at Hooker and Washington Sts. and Jefferson School at Utah and Gunn Sts. awarded to H. M. Boward & Son at $20,478.

San Francisco, Cal.—Plans prepared by Edw. Dougherty, Candler Bldg., Atlanta, for Georgia Bldg., to be erected at Panama Pacific International Exposition site; cost $20,000.

About $100,000 is to be spent for erecting building at Exposition site for State Alabama. Louis B. Farley Treas. Alabama Comn., Montgomery, Ala.

★Contract awarded to Larsen Sampson Co., Crocker Bldg., for erecting the "Irish Village" at the Panama Pacific Exposition for Michael O'Sullivan; cost, $150,000. B. J. McDougall, Sheldon Bldg., Archt.

Site selected for the Minnesota Building to be erected at the Panama Pacific Exposition at a cost of about $60,00. Address D. M. Neill, Pres., Minnesota Federation of Commercial Clubs, Minneapolis, Minn.

Plans completed by Righetti & Headman, Pheland Bldg., for an addition to San Francisco Hospital on Potrero Ave. and 21st St.; cost $75,000.

Van Nuys, Cal.—Bids desired until Aug 8 by Bd. Trus. Van Nuys High School Dist., for furnishing material and erecting a high school; also separately on heating, ventilating and plumbing.

★**Midvale, Utah.**—Contract for erecting school in Bingham Canyon awarded to E. B. Koch at $33.248. Other bids: R. C. Holsclaw, $39,700; Jas. Noale, $39,400, and Alston & Hoggan, $36,500. N. Thompson Clk. School Trus. Bidders all of Salt Lake City.

★**Twin Falls, Idaho**—Contract awarded to Ness Theisen Co. for erecting the city market building; cost $50,000.

Inverness, N. S.—Bids desired until July 27 by Director of Contracts, Dept. of Militia and Defence, Ottawa, Ont., for erecting drill hall at Inverness.

★**Montreal, Que.**—Contract for erecting reinforced concrete stadium at McGill Univ. awarded to L. A. Ott & Co., Montreal, at about $100,000.

Ingersoll, Ont.—Bids desired until Aug. 6 by Secretary Supt. Pub. Wks., Ottawa for erecting drill hall at Ingersoll.

★**Ottawa, Ont.**—Contract for erecting Customs House awarded to Peter Lyall Constr. Co., Montreal, Que., at $1,173,000.

Ottawa, Ont.—Bids reported desired by Secretary Dept. Pub. Wks., Ottawa, Ont., for erecting buildings as follows:

Until July 30, Carberry, Man.; Boissevain, Man., H. E. Matthews, Archt., Dominion Pub. Bldgs., Winnipeg, Man.

Until July 31, Elkhorn, Man. H. E. Matthews, Archt., Dominion Pub. Bldgs Winnipeg, Man.

Until Aug. 4, Oak Lake, Man. H. E. Matthews, Archt., Dominion Pub. Bldgs Winnipeg, Man.; Ashcroft, B. C., Wm Henderson, Archt., Victoria, B. C.

Toronto, Ont.—Bids desired until July 27 by Secretary-Treasurer for enlarging Huron St. and Winthrop Ave. schools also iron stairs sundry schools, and plumbing sundry schools.

Bids desired until Aug. 4 by Chairman Bd. Control for furnishing material and erecting structural steel work for Dan forth Ave. car barns.

★Items marked thus give the names of parties awarded contracts.

Powassan, Ont.—Bids desired until ug. 6 by Director of Contracts, Dept. ilitia and Defence, Ottawa, for erecting ill Hall at Powassan.

★Edmonton, Alta.—Contract for erect- g 5-story steel frame and reinforced ncrete hospital awarded to Olson & hnson, Missoula, Mont.; cost, $175,000.

Duncan, B. C.—Plans completed for urt house; cost $40,000.

Burnaby, B. C.—Plans being prepared J. H. Bowman, Yorkshire Bldg., for ast Vancouver Heights School; cost $60,- 0.

New Westminster, B. C.—Plans being epared by Gardner & Mercer for $70,- 0 addition to the courthouse.

Victoria, B. C.—Plans completed by J. Keith for city jail; cost, $80,000.

PRIVATE BUILDINGS.

Items Arranged Geographically

★Laconia, N. H.—Contract for erecting story brick business building for T. J. cIntyre, awarded to W. M. Bisson, of conia; cost $35,000.

Manchester, N. H.—Bids desired until ly 28 by Manchester Lodge, B. P. O. E., erecting 3-story, 100 x 75-ft. brick dge building; cost $50,000. Hutchins & ench, Archts., Boston, Mass.

Lynn, Mass.—The Methodists intend ecting in Clifton Sq. a church costing 5,000. Geo. H. Newton, 6 Beacon St., oston, Archt.

Springfield, Mass.—E. C. & G. C. Gard- r, 33 Lyman St., and H. L. Sprague, 310 ain St., Assoc., have prepared plans for studio building to be erected on B'way a cost of $40,000.

★Westfield, Mass.—Contract for erect- g brick edifice for St. Peter's Congre- tion awarded to P. J. Mahoney, West- ld, at about $25,000.

Greenwich, Conn.—A 3-story building r Y. M. C. A. as a memorial to the sband of Mrs. Nathaniel Witherell, of ew York, is to be erected; cost, $200,000.

Hartford, Conn.—An addition is to be ected to Hotel Bond. Harry Bond, rop.

★Batavia, N. Y.—Contract for erecting sidence for E. N. Rowell awarded to A. rederick & Sons, Rochester; cost $25,000.

Brooklyn, N. Y.—Plans being prepared y Louis Allmendinger, 926 Bway., for 2- tory theater and restaurant to be erect- d at Howard Ave. and Monroe St. for lichael Minden; cost, $85,000.

Buffalo, N. Y.—Plans being prepared for Medina stone and structural steel edifice r the Church of the Immaculate Con- eption; cost $80,000. Rev. Thos. Don- hue, Pastor, Edwards St. and S. Elm- ood Ave.

★Contract awarded to Geo. Schaaf & ons, 262 Kingsley St., for a steel brick nd terra cotta motion picture theatre to e erected on Genesee and Mortimer Sts., r Fred'k Ullman; cost $50,000. Martin . Miller, Mutual Life Bldg., Archt.

Plans completed for brick and structural teel addition to the car storage house of nternational Ry. Co., Military Rd. and Iertel Ave.; cost $25,000.

★Utica, N. Y.—General contract has een awarded to R. Richards & Son for rrecting 1 and 6 story business building or Mayno Realty Co., Inc.; cost $75,000.

Utica, N. Y.—Bids reported being re- eived by Green & Wicks, Archts., 110 Franklin St., Buffalo, for erecting in Jtica 2 theatre buildings, one on Lafay- tte Ave. and Broadway, 3-story, stone, oncrete and steel, estimated to cost $100,- 00, and the other, brick, steel and terra otta, to cost $125,000. American Motion Picture Co., 1028 White Bldg., Buffalo, Owners.

★Atlantic City, N. J.—Contract for rrecting Hotel Traymore, at Illinois Ave. nd the Boardwalk, awarded to Cramp & Co., Philadelphia, Pa.

★Newark, N. J.—Contract for erecting erminal building for Public Service Ry. Co., in Park Pl., awarded to Hedden Constr. Co., New York, at $2,000,000.

Ephrata, Pa.—Bethany Reformed Congregation decided to erect brick and stone edifice at cost of $25,000. A. S. Meck, Pastor.

McKeesport, Pa.—F. W. Woolworth Co. intends erecting on 5th Ave. a 4-story brick and stone building,; cost, $60,000.

★Philadelphia, Pa.—Contract awarded to Wm. J. Doyle for alterations to bank at Juniper and Chestnut Sts. for Penn- sylvania Co. for Insurances; cost, $50,000. Edgar V. Seeler, Archt., Real Estate Trust Bldg.

★Pittsburgh, Pa.—Contract for erecting reinforced concrete warehouse on Lam- bert St. and Farkstown Ave., East End, awarded to Toupet, Beil and Conley, Inc., Pittsburgh, at $35,000.

Pleasant Valley, Pa.—Bids desired until Aug. 4 by Bldg. Com. (T. A. Benner, Chmn.) for erecting building for P. O. S. of A., opposite new Springfield Town- ship High School.

Sunbury, Pa.—Congregation St. John's Methodist Episcopal Congregation Church voted to erect edifice; cost about $50,000. Alex. Lambertson, Pastor.

Waynesburg, Pa.—Site selected on N. Potomac St. for the $165,000 Y. M. C. A. Building.

Washington, D. C.—Plans completed by Clarke Waggaman, 1112 Connecticut Ave. N. W., for St. Thomas' Episcopal Church Rectory to be erected on New Hampshire Ave. and 18th St. N. W.; cost, $35,000.

Plans for Liberty Baptist Church, 23d and H Sts., N. W., to be prepared by Milburn, Heister & Co., Washington, D. C.; cost $25,000. Press brick and fireproof construction, gravel roof.

★Charlotte, N. C.—Contract for erecting 2-story office building for Standard Oil Co. awarded to J. A. Jones, Char- lotte, at about $35,000.

★Durham, N. C.—Contract awarded to Barber & Ross, Washington, D. C., for steel work for new First National Bank Building; heating to American Machine Co., Charlotte, N. C. Milburn, Heister & Co., Washington, D. C., Archts.

Spartanburg, S. C.—Plans being pre- pared by Hoggson Bros., New York, N. Y., for 2-story bank building to be erected at W. Main and Magnolia Sts. for First National Bank; cost about $50,000.

★St. Matthews, S. C.—Contract for erecting Methodist Church awarded to W. Lee Harvin, Lexington, at $20,350.

★Atlanta, Ga.—Contract for erecting 3- story brick apartment house at Elizabeth St. and Edgewood Ave., Inman Park, for Mr. Awtry, awarded to Feld Realty Co.; cost, about $32,000.

★Savannah, Ga.—Contract for erecting brick car barn for Savannah Electric Co. awarded to A. A. Artley, Savannah; cost, $25,000.

Mobile, Ala.—Sullivan Estate will erect on N. Royal St. a 3-story brick building for Kahn Mfg. Co.; cost, $30,000.

Plans being prepared for a 4-story office building to be erected on Conti St. by J. Pollock estate for New Orleans, Mobile & Chicago R.R.

Clarksdale, Miss.—Plans for new edifice for First Methodist Church to be pre- pared by John Gaisford, Memphis, Tenn.; cost, $40,000.

Nashville, Tenn.—John W. Blair con- templates erecting 8-story apartment house at West End and Compton Ave., near 26th St.; cost about $200,000.

Cincinnati, O.—Plans being prepared for addition to Presbyterian Church of the Covenant, 8th and Elm Sts.; cost, $40,000.

Erection of building for Business Men's Club at Race and 8th Sts. is contem- plated; cost, $500,000.

★Cleveland, O.—Contract awarded to Walsh Constr. Co., 1023 Citizens Bldg., for erecting Shaker Heights Country Club House; cost, $75,000. Mead & Hamilton, Garfield Bldg., Archts.

★Columbus, O.—Contract for erecting warehouse for S. A. Esswein Plumb. Co. at W. Broad and Ludlow Sts. awarded to Ewers Bros. F. L. Packard, Columbus, Archt.

★Dayton, O.—Contract for erecting 11- story hotel awarded to H. L. Stevens Constr. Co., Reading, Pa.; cost, $500,000.

Norwood, O.—Congregation Norwood Presbyterian Church contemplates erect- ing edifice; cost, $35,000.

Indianapolis, Ind.—Plans being prepared by Brookie & Meginnis for a 4-story, 210 x 135-ft. brick hotel to be erected on Pennsylvania and 27th Sts., for Fall Creek Realty Co.; cost about $600,000.

★Contract awarded by L. S. Ayres & Co. to Bedford Stone & Constr. Co., In- dianapolis, for erecting a 9-story building on Washington and Meridian Sts; cost, $350,000.

Lafayette, Ind.—Depot is to be erected at 9th and Ferry Sts. for Ft. Wayne & Northern Indiana Traction Co.; Saml. W. Greenland, Gen. Mgr., Ft. Wayne; cost about $40,000.

★Contract for erecting building for Lafayette Lodge of Elks awarded to Alva E. Kemmer, Lafayette, at $46,000.

★Detroit, Mich.—Contract for erecting addition to People's State Bank at Con- gress and Shelby Sts. awarded to Geo. A. Fuller Co., New York, N. Y.; cost, $300,000.

Green Bay, Wis.—St. John the Baptist Church of the town of Howard intends erecting an edifice costing $25,000. Foel- ler & Schober, Green Bay, Archts.

Dubuque, Ia.—Becker Hazleton Co. in- tends erecting on Iowa St. a 7-story building.

★Mason City, Ia.—Contract for erect- ing 5-story building at Sherman and Miller Sts. for International Harvester Co. awarded to Mason City Bldg. Cor. at $75,000.

Beaudette, Minn.—Bids being received for erecting brick building for First State Bank, Beaudette; cost about $20,000.

Bemidji, Minn.—Contract about to be let for erecting building for Elks; cost about $40,000. R. C. Buckley, St. Cloud, Archt.

Wichita, Kan.—Bids reported desired until Aug. 1 for erecting 4-story, 48 x 140- ft. reinforced concrete brick and fireproof building for Y. W. C. A. Separate bids for plumbing, heating and electrical work. Probable cost, $35,000. H. S. Conrow, Archt., Beacon Bldg.

Billings, Mont.—Plans completed for a 4-story steel and concrete office building to be erected for Montana Power Co. Cost, $150,000.

St. Louis, Mo.—Steps being taken by Bedell Co. (J. J. Grau, Gen. Mgr.) to erect 6-story building to replace store at 7th St. and Washington Ave.

Coleman, Tex.—Congregation Methodist Church contemplates erecting edifice; cost, $40,000.

San Antonio, Tex.—Leo. M. J. Del- mann, San Antonio, is architect for 8- story office building to be erected on Commerce and St. Mary's Sts.; cost, $100,000.

Silver City, N. M.—Preliminary plans prepared for 4-story concrete and tile hotel to be erected for Silver City Hotel Co.; cost, $80,000.

Seattle, Wash.—Plans being prepared by W. P. White, Transportation Bldg., for 5-story brick apartment house to be erected for Seneca Improv. Co. at Seneca and 8th Sts.; cost, $70,000.

Spokane, Wash.—Plans completed by F. P. Rooney, Empire State Bldg., for theatre to be erected for Liberty Theatre Co. at a cost of $100,000.

★Walla Walla, Wash. — Contract awarded to M. J. Hursen Co., Globe Blk., Seattle, for erecting 1-story concrete and brick depot for Northern Pacific Ry.; cost, $50,000.

★Fresno, Cal.—Contract for erecting theatre for T. C. White awarded to Twehitt & Shields, Fresno, at $81,800. E. T. Foulkes, Crocker Bldg., San Francisco, Archt.

Hermosa Beach, Cal.—Plans prepared for 2-story white pressed brick bank building to be erected at Pier and Her- mosa Aves for First Bank; cost, $35,000.

San Francisco, Cal.—Plans prepared by Rousseau & Rousseau, Monadnock Blk., for 5-story brick apartment house to be erected at Sacramento and Hyde Sts., for Metropolis Investment Co.; cost about $39,000.

Port Arthur, Ont.—I. O. O. F. intends erecting on Park and Court Sts. a store and lodge building costing $50,000.

★Toronto, Ont.—Contract awarded by Excelsior Life Insurance Co. to Peter Lyall Co., Montreal, Que., for erecting an 11-story building on Toronto and Ade- laide Sts.; cost, $500,000.

Winnipeg, Man.—Plans being prepared for 10-story steel and concrete fireproof hotel to be erected on Main St. for the Wright Hotel Co.

Victoria, B. C.—Plans being prepared by C. E. Watkins for building to be erect- ed by Chas. Hayward; cost, $200,000.

NEW INDUSTRIAL PLANTS.

See also "Private Buildings."

Items Arranged Geographically

North Adams, Mass.—Hoosac Cotton Mills reported to be having plans pre- pared for a power house in connection with their plant.

Buffalo, N. Y.—The Wickwire Steel Co. planning to construct a plant for manu- facturing wire and wire mesh near banks of Niagara River.

★Contract awarded by the Niagara Coke Co. to Otto Coking Co., 6 Church St., New York, N. Y., for constructing a coking and by-product gas plant; cost $1,000,000.

Comstock, N. Y.—Bids desired until Aug. 6 by Supt. State Prisons, Capitol, Albany, for refrigeration equipment and electric work for store house for mess hall and kitchen building, Great Meadows Prison, Comstock, advertised in Engineer- ing Record. Lewis F. Pilcher, State Archt., Albany.

Jamestown, N. Y.—Contract about to be let by the Interior Metal Mfg. Co., 65 River St., for erecting addition to plant on River St. of steel, concrete and brick, and fireproof construction; cost $40,000, with equipment.

Havre De Grace, Md.—The North End Mining & Milling Co., Havre De Grace, considering construction of a sand and gravel plant.

Memphis, Tenn.—Yazoo & Mississippi Valley R. R. Co. (A. H. Egan, Gen. Supt., Memphis) contemplates erecting car building and locomotive repair shops at Nonconnah, near New South Memphis.

Milwaukee, Wis.—Plans being prepared by Schnetzky & Son, 1320 Cedar St., for 4-story 75 x 136-ft. brick, concrete and steel factory to be erected at Buffalo and E. Water Sts. for Frazen Investment Co.; cost about $100,000.

Oconomowoc, Wis.—Coast Condensed Milk Co. contemplates erecting plant in Oconomowoc at cost about $200,000. E. A. Stewart, Secy.

Keokuk, Ia.—Johnson Electric Smelt- ing Co., 18 E. 41st St., New York, N. Y., according to reports, intends erecting a factory here; cost, $75,000.

Sioux City, Ia.—Mystic Milling Co. (H. J. Hutton, Pres.) reported to be taken steps to replace the elevator destroyed by fire. A 500,000-bu. fireproof grain elevator is contemplated.

Jeffers, Minn.—Bids desired until Aug. 3 by Farmers' Co-Operative Elevator Co. for furnishing material and erecting ele- vator.

Great Falls, Mont.—Boston & Montana Smelter Co. reported to be planning the erection of a refinery here.

Seattle, Wash.—Bids desired until Aug. 13 by Port of Seattle Comn., Central Bldg., for furnishing and installing refrigerating equipment in cold storage warehouse, Cen- tral Waterfront Improvement.

Montreal, Que.—Hanan & Sons, New York, N. Y., contemplate erecting shoe factory in Montreal.

★Brantford, Ont.—Contract for erect- ing a factory for Niagara Silk Co. awarded to Bennett & Bowden; cost, $35,000.

MISCELLANEOUS.

See also "Hydraulic Construction and River Improvements."

Items Arranged Geographically

Retaining Wall—Fall River, Mass.—Bids desired until July 27 by City Recorder for constructing retaining wall at Oak Grove Cemetery.

Fire Escapes—Providence, R. I.—Bids desired until July 30 by State Bd. Control for fire escapes for Rhode Island Institute for Deaf, 520 Hope St., Providence. B. S. D. Martin, Archt., 86 Weybosset St.

Lockers for Armories—Albany, N. Y.—Bids desired until Aug. 10 by State Armory Comn, 174 State St., for lockers for State Armories, advertised in En- gineering Record.

Derrick—Tompkinsville, S. I., N. Y.—Bids desired until July 30 by Lighthouse Inspector for furnishing one-ton hand- power derrick.

Retaining Wall—Easton, Md.—Bids de- sired until July 28 by County Comrs. for constructing 366-ft. retaining wall along Miles River at Easton approach to Miles River Bridge. Frank W. Sets, Co. Roads Engr., Easton.

U. S. Government Supplies—Washing- ton, D. C.—Bids desired until Aug. 4 at Bureau Supplies and Accounts, Navy Dept., Washington, for furnishing at the U. S. Navy Yards and Naval Stations sup- plies as follows: Brooklyn, N. Y.—Sch. 7043, miscellaneous naval bar brass, 12-in. lengths; Sch. 7037, 30,000 lb. steel bar, 8- in. lengths; Sch. 7031, miscellaneous Classes B and C boiler plate steel; Sch. 7044, 5200 lb. seamless drawn brass pipe, 12-in. lengths; Sch. 7055, 312,000 ft. silicon bronze 1022-C. M. aerial wire; Sch. 7038, 32M. ft. merchantable grade spruce. Washington, D. C.—Sch. 7042, 400,000 lb. grade 1 ingot copper; Sch. 7026, 40,800 lb. 240 x60-in., 10.2-lb. sq. ft. steel plates. Philadelphia, Pa.—Sch. 7043, 100 tons grade No. 1, and 50 tons grade No. 2 pig iron; Sch. 7037, miscellaneous Class A commercial lengths nickel bar steel, etc. Applications for proposals should desig- nate the schedules desired by numbers.

★Boilers—Washington, D. C.—Contract reported awarded by Navy Dept. to Blake & Knowles, Cambridge, Mass., for 47 pumps for the new battleship, at $66,000.

Memorial, Washington, D. C.—Bids de- sired until Aug. 20 by Col. Wm. W. Harts, U. S. A., Executive Officer, Comn. on Memorial to Women of Civil War, 1729 New York Ave., Washington, for erecting a memorial in Washington, advertised in Engineering Record.

★Elevator — Washington, D. C. — Con- tract for installing 3 passenger elevators in U. S. Soldiers' Home, Washington, (bids opened June 24), has been awarded to Otis Elevator Co., Washington, at $8,180.

★Culvert Pipe—Newton, Miss.—Con- tract for culvert pipe (bids opened July 13) awarded to Southern Sewer Pipe & E. W. Hemphin & Co.

Culverts — Memphis, Tenn. — Following are bids received for constructing the re- inforced concrete culvert across Front St. as part of the Memphis Levee Scheme: Kowhler Bros. & Fowler Co., $29,363; G. O. White, $25,085; Thomas, Hermon & Hickey Bros., $39,321, and Noel Constr. Co., $37,700.

Creosoted Piling for Levee Work—Memphis, Tenn.—Lowest bid received for furnishing 1018 pieces of creosoted piling for North Memphis levee submitted by American Creosoting Works, $6,471.

Retaining Walls—Cleveland, O.—See "Bridges."

★Crane — Detroit, Mich. — Contract awarded by Dept. Pub. Wks. to Orton & Steinbrenner for 2 locomotive cranes, at $10,450.

Culvert—Atchison, Kan.—Frank S. Alt- man, City Engr., is preparing plans for reinforced-concrete culvert at 4th and Main Sts.; cost $10,000.

★Items marked thus give the nomes of parties awarded contracts.

Steam Heating Mains—Miles City, Mont.—Bids desired until Aug. 10 by City Clerk for furnishing material and constructing an underground exhaust steam heating main.

Wharf—Beaumont, Tex.—Bids soon to be asked by City Clerk on $175,000 wharf and dock site bonds.

Causeway—Corpus Christi, Tex.—The Commissioners of Nueces County have accepted plans of Bartlett & Ranney, San Antonio, for construction of causeway across Nueces Bay to connect mainlands of Nueces and San Patricio Counties. Bids for construction will be received Aug. 17.

★**Mechanical Equipment—Denver, Colo.**—Contract for installing mechanical equipment in U. S. P. O. building at Denver awarded to the Chris Irving Plumb. & Htg. Co., Denver, at $107,934.

★**Shed and Trestle—Fort Logan, Colo.**—Contract awarded to R. P. McDonald Constr. Co., Denver, Colo., for a coal shed and trestle at Fort Logan, Colo., at $6,383.

Crane—Seattle, Wash.—New bids will be received by the Port Commission about Sept. 1 for gantry crane; cost about $50,000.

Elevators—Sacramento, Cal.—Bids reported desired until July 30 by W. F. McClure, State Engr., for installing elevators in California State Library, Sacramento.

Subway—Montreal, Que.—Bids reported desired until July 30 for constructing subway on Park Ave. City Council has voted $190,000 for construction of subway and other expenditure in connection with it. J. E. Vanier, Engr., 5 Beaver Hall Square.

Proposals

For Proposals Advertised see Pages 44, 45, 46, 47 and 48.

WATERWORKS.

Bids Close.		See Eng Record
July 25.	Cocks, Columbus, O.	July 25
July 27.	Reservoir, North Adams, Mass. Adv. July 18.	July 18
July 27.	Steel Tank, Boston, Mass. Adv. July 18.	July 18
July 27.	Pumping Engine, Port Huron, Mich. Adv. July 18.	July 18
July 28.	Pipe, Belleville, N. J.	July 18
July 29.	Reservoir, Etc., Dubuque, Ia. Adv. July 11.	July 11
July 29.	Meters, Washington. D. C.	July 18
July 29.	Water Works, Dakota City, Neb.	July 25
July 29.	Pipe and Supplies, Imperial, Cal.	July 25
July 29.	Valves, Kansas City, Mo.	July 25
July 30.	Reservoir, Pownal, Me.	July 4
July 30.	Extension, Paragould, Ark.	July 18
July 30.	Pump. Sta. Equip., Chicago, Ill.	July 25
July 30.	Water Works, Paragould, Ark. Adv. July 25.	July 25
July 31.	Irrigation Dist, Plans, Modesto, Cal.	July 18
July 31.	Found. for Reservoir, Etc., Boston, Mass.	July 25
Aug. 1.	Meters, Norfolk, Va.	July 18
Aug. 1.	Pipe, Prince Albert, Sask.	July 25
Aug. 1.	Water Wks., Casper, Wyo.	July 25
Aug. 3.	Pumps, Orillia, Ont.	July 11
Aug. 3.	Pump, Etc., San Antonio, Tex.	July 11
Aug. 3.	System, New Boston, Tex. Adv. July 18, 25.	July 18
Aug. 3.	Standpipe, Lockport, Ill.	July 18
Aug. 3.	Pump Equip., Ansley, Neb.	July 25
Aug. 3.	Pumps, Etc., Panama.	July 25
Aug. 3.	Extension, Ipswich, S. D.	July 25
Aug. 5.	Mains, Enterprise, Kan.	July 18
Aug. 5.	Reservoir, Schenectady, N. Y. Adv. July 25.	July 25
Aug. 6.	Water Works, Charleston, Mo. Adv. July 18.	July 18
Aug. 6.	C.-I. Pipe, Pittsburgh, Pa. Adv. July 25.	July 25
Aug. 10.	Extension to Plant, Delta, O.	July 25
Aug. 10.	Pump, Rock Island, Ill.	July 25
Aug. 12.	Tank, Pekin, Ill. Adv. July 25.	July 25
Aug. 15.	Pumps, Etc., Prince Albert, Sask.	July 25
Aug. 27.	Works, Dalton, Neb.	June 13
Sep. 19.	Aqueduct, Winnipeg, Man.	July 25

SEWERAGE AND SEWAGE DISPOSAL.

July 27.	Houston Heights, Tex. Adv. June 27 to July 18.	June 27
July 28.	Sect. 14, Newark, N. J. Adv. July 4 to 18.	July 4
July 28.	Sect. 27, Newark, N. J. Adv. July 4 to 18.	July 4
July 28.	Carthage, O.	July 18
July 28.	Belleville, N. J.	July 18
July 28.	Fairport, O.	July 25
July 29.	Brooklyn, N. Y.	July 25
July 29.	Toledo, O.	July 25
July 30.	Blythesville, Ark.	July 18
July 30.	Oshkosh, Wis.	July 25
July 31.	York, Pa. Adv. July 11 to 25.	July 11
July 31.	Rutherford, N. J.	July 25
Aug. 1.	Baton Rouge, La.	June 27
Aug. 1.	Miamisburg, O.	July 18
Aug. 1.	Oneonta, N. Y.	July 25
Aug. 1.	Baton Rouge, La.	July 25
Aug. 3.	Hannibal, Mo. Adv. July 18, 25.	July 18
Aug. 3.	Geneva, Ill.	July 25
Aug. 3.	Salem, O.	July 25
Aug. 3.	Brainerd, Minn.	July 25
Aug. 3.	Perry, Ga.	July 25
Aug. 4.	Biloxi, Miss. Adv. July 18, 25.	July 18
Aug. 4.	Toronto, Ont.	July 11
Aug. 5.	St. Louis, Mo.	July 25
Aug. 6.	Charleston, Mo. Adv. July 18.	July 18
Aug. 7.	St. Louis, Mo.	July 25
Aug. 11.	Akron, O. Adv. July 25.	July 25
Aug. 11.	The Pas, Man.	July 25
Aug. 17.	Canton, O.	July 25

BRIDGES.

July 27.	Kansas City, Kan. Adv. July 4 to 18.	July 4
July 28.	St. Joseph, Ill.	July 25
July 28.	Illinois	July 25
July 28.	Ottawa, Ont.	July 25
July 29.	Sacramento, Cal.	July 18
July 30.	Boise, Idaho Adv. July 4 to 18.	July 4
July 30.	Watseka, Ill.	July 25
July 30.	Mt. Holly, N. C.	July 25
July 31.	New Gretna, N. J.	July 18
July 31.	Marinette, Wis.	July 18
July 31.	Easton, Pa.	July 18
July 31.	Cleveland, O.	July 25
Aug. 1.	Woodsdale, O.	July 18
Aug. 1.	Lansing, Mich.	July 25
Aug. 1.	Dallas, Tex.	July 25
Aug. 3.	Whitesburg, Ky.	June 27
Aug. 3.	Santa Barbara, Cal.	July 18
Aug. 3.	Ashland, O.	July 25
Aug. 4.	Boonville, Ind.	July 18
Aug. 4.	Illinois	July 25
Aug. 6.	Charlotte, N. Y. Adv. June 13, 20.	June 13
Aug. 7.	Bucyrus, O.	July 18
Aug. 7.	Youngstown, O.	July 25
Aug. 10.	Jacksonville, Fla.	July 25
Aug. 15.	Toronto, Ont.	July 18
Aug. 17.	New Philadelphia, O.	July 25
Aug. 24.	Bowman, Ga.	July 18
Aug. 31.	Seattle, Wash.	July 25

PAVING AND ROADS.

July 27.	Albany, N. Y. Adv. July 11 to 25.	July 11
July 28.	Illinois	July 18
July 28.	Rockville, Md.	July 18
July 28.	Philadelphia, Pa.	July 18
July 28.	New Cumberland, W. Va.	July 18
July 28.	Boston, Mass.	July 25
July 28.	Lyons, Ill.	July 25
July 28.	Graham, N. C.	July 25
July 28.	Kansas City, Mo.	July 25
July 28.	Hibbing, Minn.	July 25
July 28.	Plymouth, Mich.	July 25
July 28.	Kalamazoo, Mich	July 25
July 28.	Bloomington, Del.	July 25
July 29.	Indiana	June 20
July 29.	La Rue, O.	July 4
July 29.	Cleveland. O.	July 11
July 29.	Washington, Pa.	July 11
July 29.	Brooklyn, N. Y.	July 25
July 29.	Charles City, Va.	July 25
July 29.	Washington. Pa.	July 25
July 29.	Rome, N. Y.	July 25
July 30.	Marion, O.	July 25
July 30.	Princeton, W. Va.	July 25
July 30.	New York, N. Y.	July 25
July 31	Cincinnati, O.	July 11
July 31.	Pocatello, Idaho	July 18
July 31.	St. Louis, Mo.	July 25
July 31.	Upper Sandusky, O.	July 25
July 31.	Marinette, Wis.	July 25
July 31.	Aurora, Neb.	July 25
July 31.	Boise, Idaho	July 25
July 31.	Indiana	July 25
Aug. 1.	Ellsworth, O.	July 18
Aug. 1.	Cleveland, O.	July 18
Aug. 1.	Buffalo, N. Y.	July 25
Aug. 3.	Indiana	July 18
Aug. 3.	Defiance, O.	July 25
Aug. 3.	Sturgis, Mich. Adv. July 25.	July 25
Aug. 3.	Laurel, Miss.	July 25
Aug. 3.	New Glarus, Wis.	July 25
Aug. 3.	Seale, Ala.	July 25
Aug. 3.	Concord, N. H.	July 25
Aug. 3.	Clifton, Ariz.	July 25
Aug. 3.	Vicksburg, Miss.	July 25
Aug. 3.	Sheridan, Wyo. Adv. July 25.	July 25
Aug. 3.	Indiana	July 25
Aug. 4.	Indiana	July 18
Aug. 4.	Youngstown, O.	July 18
Aug. 4.	Toledo, O.	July 11
Aug. 4.	Baltimore, Md.	July 25
Aug. 4.	Hattiesburg, Miss.	July 25
Aug. 4.	Rahway, N. J. Adv. July 18, 25.	July 18
Aug. 4.	Port Angeles, Wash.	July 25
Aug. 4.	Lorain, O.	July 25
Aug. 4.	Illinois	July 25
Aug. 4.	Omaha, Neb.	July 25
Aug. 4.	Indiana	July 25
Aug. 4.	Ohio	July 25
Aug. 5.	Norwalk, Conn. Adv. July 18.	July 18
Aug. 5.	Ottawa, O.	July 25
Aug. 5.	Schenectady, N. Y. Adv. July 25.	July 25
Aug. 6.	Indiana, Pa.	July 25
Aug. 6.	Tampa, Fla. Adv. July 25.	July 25
Aug. 6.	Indiana	July 25
Aug. 7.	Indiana	July 18
Aug. 7.	Iowa City, Ia.	July 25
Aug. 8	Halls, Tenn.	July 18
Aug. 8.	Indiana	July 25
Aug. 10.	California	July 18
Aug. 13.	Ft. Bliss, Tex. Adv. July 25.	July 25
Aug. 14.	Defiance, O.	July 25

HYDRAULIC CONSTRUCTION AND RIVER IMPROVEMENTS.

July 27.	Lock Machinery, St. Paul, Minn. Adv. June 27 to July 18.	June 27
July 28.	State Canal Work, Albany, N. Y.	July 11
July 28.	Levee Work, Baton Rouge, La.	July 18
July 28.	Levee, New Orleans, La.	July 25
July 28.	Levee, Tallulah, La.	July 25
July 28.	Dredging, Boston, Mass.	July 25
July 29.	Levee Construction, Jacksonville, Ill. Adv. July 11 to 25.	July 11
July 29.	Breakwater, Cleveland, O.	July 25
July 30.	Irrigation, Denver, Colo. Adv. July 4 to 18.	July 4
July 30.	Drainage, Gridley, Ill.	July 18
July 30.	Wharf Exten., St. Valier, Que.	July 25
July 30.	Dock, Oshkosh, Wis.	July 25
July 31.	Wharf, Windsor, N. S.	July 18
July 31.	Wharf, Mochelle, N. S.	July 18
Aug. 4.	Sluice and Regulator Gates, Great Falls, Mont. Adv. July 4 to 18.	July 4
Aug. 4.	Ditch, Warren, O. Adv. July 25.	July 18
Aug. 4.	Waste Gates and Weir, Celina, O. Adv. July 25.	July 25
Aug. 4.	Ditch, Union City, Tenn.	July 25
Aug. 6.	Excavating Machinery, St. Paul, Minn. Adv. June 27 to July 11.	June 27
Aug. 10.	Machinery for Locks, Etc., Seattle, Wash. Adv. July 11 to 25.	July 11
Aug. 10.	Pier Repairs, Newcastle, Ont.	July 18
Aug. 10.	Gates for Dams, French River, Ont.	July 18
Aug. 11.	Levee, St. Louis, Mo.	July 18
Aug. 11.	State Canal Work, Albany, N. Y. Adv. July 18, 25.	July 18
Aug. 11.	Jetty, Steveston, B. C.	July 18
Aug. 11.	Ditch, Slayton, Minn.	July 25
Aug. 12.	Dredging, Galveston, Tex. Adv. July 18, 25.	July 18
Aug. 12.	Dredging, Port Aransas, Tex.	July 25
Aug. 14.	Breakwater, Buffalo, N. Y. Adv. July 25.	July 25
Aug. 15.	Riprap, Galveston, Tex. Adv. July 25.	July 25
Aug. 17.	Irrigation Work, Phoenix, Ariz. Adv. July 11 to 25.	July 11
Aug. 19.	Tunnel and Appurtenances, San Francisco, Cal. Adv. July 11.	July 11
Aug. 26.	Breakwater, St. John, N. B.	July 18
———	Drain, Ft. Dodge, Ia. Adv. June 27, July 4.	June 27

POWER PLANTS, GAS AND ELECTRICITY.

July 28.	Horton, Kan. Adv. July 18.	July 18
———	Luna Park, Coney Island, N. Y. Adv. July 18.	July 18

PUBLIC BUILDINGS AND SCHOOLS.

July 28.	Washington, D. C.	July 18
July 28.	West Hoboken, N. J.	July 18
July 28.	Merritt, B. C.	July 18
July 28.	Rockford, Ill.	July 25
July 28.	Bedford Hills, N. Y. Adv. July 25.	July 25
July 29.	Garden City, Kan. Adv. June 20, 27.	Jun. 20
July 29.	Frontenac, Kan.	July 25
July 29.	Beech Grove, Ind.	July 25
July 29.	Englewood, N. J.	July 25
July 29.	Spring City, Pa.	July 25
July 29.	Clarksburg, O.	July 25
July 29.	Eugene, Ore.	July 25
July 30.	Cookeville, Tenn.	Jun. 27
July 29.	Beech Grove, Ind.	July 25
July 30.	Canal Dover, O.	July 11
July 30.	Carthage, O.	July 11
July 30.	Dayton, O.	July 18
July 30.	Pasadena, Cal.	July 18
July 30.	Hendrum, Minn.	July 25
July 30.	Ottawa, Ont.	July 25
July 31.	Louisville, Ky. Adv. July 4 to 25.	July 4
July 31.	Ottawa, Ont.	July 25
July 31.	Rochester, N. Y.	July 25
Aug. 1.	Chicago, Ill.	Jun. 27
Aug. 1.	Seattle, Wash.	July 11
Aug. 1.	Keyser, W. Va.	July 18
Aug. 1.	Wallum Lake, R. I.	July 25
Aug. 1.	Rochester, Pa.	July 25
Aug. 1.	Butternut, Minn.	July 25
Aug. 1.	Webster Groves, Mo.	July 25
Aug. 1.	Keokuk, Ia.	July 25
Aug. 1.	Port Angeles, Wash.	July 25
Aug. 3.	Three Rivers, Mich.	Jun. 27
Aug. 3.	Cleveland, O.	July 11
Aug. 3.	Bristol, Va.	July 18
Aug. 3.	Stevens Point, Wis.	July
Aug. 3.	Ladysmith, Wis.	July
Aug. 3.	Hanover, Ont.	July
Aug. 3.	Ingram, Pa.	July
Aug. 3.	Springfield, Ill.	July
Aug. 3.	Frankfort, Ky.	July
Aug. 4.	Hespeler, Ont.	July
Aug. 4.	Stanley, N. D.	July
Aug. 4.	Cincinnati, O.	July
Aug. 4.	Youngstown, O.	July
Aug. 4.	Wythesville, Va.	July
Aug. 4.	Council Bluffs, Ia.	July
Aug. 4.	Trenton, N. J. Adv. July 18, 25.	July
Aug. 4.	Boston, Mass. Adv. July 25.	July
Aug. 4.	Norfolk, Mass.	July
Aug. 4.	Denton, Mont.	July
Aug. 4.	Garden City, S. D.	July
Aug. 4.	Minneapolis, Minn.	July
Aug. 4.	Toronto, Ont.	July
Aug. 4.	Ottawa, Ont.	July
Aug. 5.	Vancouver, B. C.	July
Aug. 5.	Sacramento, Cal.	July
Aug. 5.	Cheltenham, Pa.	July
Aug. 6.	Gary, Ind.	Jun.
Aug. 6.	Courtenay, B. C.	July
Aug. 6.	Powassan, Ont.	July
Aug. 6.	Youngstown, O.	July
Aug. 6.	Ingersoll, Ont.	July
Aug. 8.	Farmingdale, N. Y. Adv. July 18, 25.	July
Aug. 8.	Alliance, O.	July
Aug. 8.	Van Nuys, Cal.	July
Aug. 10.	Columbus, O.	July
Aug. 10.	Utica, N. Y.	July
Aug. 12.	Georgetown, Ky.	July
Aug. 14.	Milwaukee, Wis.	July
Aug. 14.	Milwaukee, Wis.	July
Aug 15.	Pearl City, T. H.	Jun.
Aug. 18.	Springfield, Ill.	July
Aug. 20.	Paoli, Ind.	July
Aug. 22.	Medford, Ore.	July
Aug. 24.	Bedford, Pa.	July
Aug. 25.	Eureka, Cal.	July
Aug. 26.	Tupelo, Miss.	July
Sep. 1.	Cincinnati, O.	July

PRIVATE BUILDINGS.

July 28.	Tulsa, Okla.	July
July 28.	Manchester, N. H.	July
July 29.	Alliance, Neb.	July
July 30.	Edmonton, Alta.	July
Aug. 1.	Wichita, Kan.	July
Aug. 4.	Pleasant Valley, Pa.	July
Aug. 6.	Monroe, La.	July

NEW INDUSTRIAL PLANTS.

Aug. 3.	Jeffers, Minn.	July
Aug. 6.	Comstock, N. Y. Adv. July 25.	July
Aug. 13.	Seattle, Wash.	July
Aug. 20.	Seattle, Wash. Adv. July 18, 25.	July

MISCELLANEOUS.

July 28.	U. S. Govt. Supplies, Washington, D. C.	July
July 28.	Retaining Wall, Easton, Md.	July
July 29.	Coal Pocket, Ft. Williams, Me. Adv. July 11 to 25.	July
July 29.	Garbage Disposal, Columbus, O.	July
July 30.	Wire and Cable, New Orleans, La.	Jun
July 30.	Cables, Toronto, Ont.	July
July 30.	Steel Castings, Philippine Islands Adv. July 18, 25.	July
July 30.	Cable, Toronto, Ont. Islands Adv. July 18.	July
July 30.	Elevators, Sacramento, Cal.	July
July 30.	Subway, Montreal, Que.	July
July 30.	Derrick, Tompkinsville, N. Y.	July
July 30.	Fire Escapes, Providence, R. I.	July
July 30.	Garbage Disposal, Akron, O.	July
July 31.	Retaining Wall, Cleveland, O.	July
Aug. 3.	Towboats, New Orleans, La. Adv. July 11 to 25.	July
Aug. 3.	El. Ry. Franchise, Hopkinsville, Ky.	July
Aug. 4.	Railroad, Ottawa, Ont.	July
Aug. 4.	El. Ry. Work, Boston, Mass. Adv. July 25.	July
Aug. 4.	U. S. Govt. Supplies, Washington, D. C.	July
Aug. 6.	Boilers, Washington, D. C.	July
Aug. 10.	Lockers for Armory, Albany, N. Y. Adv. July 25.	July
Aug. 10.	Steam Htg. Mains, Miles City, Mont.	July
Aug. 11.	U. S. Govt. Supplies, Washington, D. C.	July
Aug. 12.	Steel Barges, New Orleans, La. Adv. July 18, 25.	July
Aug. 17.	Pump, Etc., from Dredge For Sale, Jacksonville, Fla. Adv. July 18, 25.	July
Aug. 17.	Causeway, Corpus Christi, Tex.	July
Aug. 18.	Coal and Ash Handling Apparatus, Toronto, Ont. Adv. June 27 to July 18.	July
Aug. 20.	Memorial, Washington, D. C. Adv. July 25.	July
Sep. 1.	Crane, Seattle, Wash.	July
———	R.R. Work, Winnipeg, Man. Adv. July 11 to 18.	July

★*Items marked thus give the names of parties awarded contracts.*